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THE

DUBLIN JOURNAL

OF

MEDICAL SCIENCE.

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JANUARY 1, 1900.

PART I.

ORIGINAL COMMUNICATIONS.

ART. I.—*The Clinical Features of Beri-Beri.*[a] By CONOLLY NORMAN, F.R.C.P.I.; Medical Superintendent, Richmond District Asylum, Dublin.

DISTURBANCES of sensation, although, as might be expected, often missing among the insane, are without doubt one of the earliest indications of beri-beri, and were always the first subject of complaint among the sane sufferers at the Dublin asylum. The patient felt tired after slight exertion or towards evening, and experienced a sensation as if his legs were heavy. As these conditions increased they were usually accompanied by a dull aching in the calves. Later on this aching sometimes became a prominent symptom, the pain being evidently very severe. At first, however, there was commonly no great continuous muscular pain. Cramps in the calf muscles, chiefly at night, were of early occurrence, and very often formed the immediate reason of the patient reporting himself ill. He then mentioned the weary feelings which he had perhaps experienced for some days, but which had not till now seemed to him of much consequence. The cardiac and dropsical signs may have already appeared, but not in a manner to attract the patient's notice. Numbness as a spontaneous sensation was often experienced; or numb-

[a] Abstract of a paper read in the Section of Medicine of the Royal Academy of Medicine in Ireland, on January 27, 1899.

ness became evident when the patient touched anything with his foot, or in some cases with his hand.

The most frequent complaint, when the disease was fully developed, and probably the most characteristic, was of a sensation as if something was creeping over a blistered surface. This feeling (painful formication), to which the Japanese observers have drawn special attention under the name of *piri-piri*, probably belongs to the mixed order of combined hypo-and hyper-æsthesiæ. However conditioned, *piri-piri* is often a state of great suffering. It was extremely well marked in one of my nurses who suffered intensely from it, particularly at night.

In searching for tenderness and anæsthesia, not spontaneously complained of, some care is necessary, as a variety of conditions is found which might deceive a careless observer. The superficial nerves were always tender where sensibility could be judged at all. This was specially the case with the peroneal nerve. The saphenus in the lower third of the inside of the thigh was also very frequently tender. The calf muscles were tender on pressure. Together with this tenderness to deep pressure there were varying degrees of superficial anæsthesia or hypo-æsthesia. The latter conditions were, of course, less easy to confirm in the insane than the former. A firm grasping of the calf so as to produce pressure on the muscles nearly always caused marked wincing, whereas it was often impossible, owing to the patient's mental state, to be sure as to the existence of diminution of superficial sensibility. Nevertheless, from its invariable presence in the sane sufferers and from the frequency with which it could be demonstrated in the more intelligent among the insane, I have little doubt that it always existed. It was very variable in extent and degree. It was usually associated with conditions of paræsthesia (sensations of formication and the like). Very often we found that the patient who was insensible to light pressure (the drawing of a pencil or feather lightly over the skin) complained of pain of a formicating character when the pencil was drawn more firmly over the same area.

A phenomenon was frequently observed among my

patients which I have not found elsewhere recorded in descriptions of beri-beri—namely, the occurrence round each zone of hypo-æsthesia of a very distinct zone of hyperæsthesia. Thus when the pencil passed from the region where light pressure could not be perceived, the same degree of pressure caused immediate wincing before a region was reached where sensation seemed normal, showing that the zones where sensation was lowered were bordered by tracts of tenderness.

Patches of cutaneous hyperæsthesia, anæsthesia, hypo-æsthesia, or paræsthesia were found in various parts of the body. In some cases alteration in cutaneous sensibility was probably almost general. More often it occurred in limited patches, sometimes corresponding to the distribution of certain cutaneous nerves, often apparently quite without such correspondence. Hypo-æsthesia, with more or less paræsthesia, occurring over the legs from knee to ankle in irregular tracts, and similarly on dorsum of foot was the sensory phenomenon which was actually most commonly demonstrated (next to the practically universal tenderness of the calf muscles). Sensory troubles, whether deep or superficial, seemed always to begin in the legs. Tracts of anæsthesia were found also on the thighs, on the trunk,[a] on the upper extremities, on the nucha, and on the face. Two patients—a nurse and a lunatic—presented isolated patches of anæsthesia about the lips. One nurse presented anæsthesia of the face, at first strictly unilateral and later extending towards the opposite side in the region about the mouth. It has been said that there is a special tendency in beri-beri for the sensation of the superficial tissues round the mouth to be engaged.[b] In the case of the nurse above referred to this engagement involved the

[a] Including back and front of chest, sides, abdomen, and loins. Scheube observes that in his experience the back remains free. In one of my cases, patches of hypo-æsthesia with paræsthesia were very well marked on the loins, lateral aspects of chest, and in the scapular and intra-scapular regions.

[b] Observed as long ago as the time of Ridley (loc. cit.), emphasised by Scheube, and rightly stated by him to occur in some cases where hypo-æsthesia is not widespread. Pekelharing and Winkler state that they have not met this condition.

red border of the lips, and the patient complained that she could not properly feel her cup when she drank. Anæsthetic patches and tracts sometimes lasted for a considerable time; sometimes with little change; sometimes spreading gradually and gradually diminishing. On the other hand, when carefully watched and traced, they were very frequently found to vary, little or much, from day to day; sometimes they vanished with singular suddenness. The painful formication was often worse at night. On the contrary, anæsthetic patches were sometimes found to be present in the morning, and to disappear in the evening. Fugacious anæsthesia, present in the morning and disappearing in the evening, has been recorded by Scheube in his great monograph on beri-beri, as seen by him in Japan.

With regard to the condition of the reflexes, my observation coincides with those of Grimm, who emphasises the fact that so far from the abolition of the knee-jerks being a prominent feature of the disease in all stages, the knee-jerk is exaggerated, as are all the reflexes, superficial and deep, in the earlier stages. As cases progressed the knee-jerks were usually diminished, sometimes unequally on the two sides. When there was complete loss of power they were abolished.[a]

The motor like the sensory engagement was variable. The earliest symptom was a slight affection of the peroneal muscles and the flexors of the foot. In consequence the foot tended to drop and become inverted. Some patients progressed in a hobbling, swaying fashion which they attributed to pain or to general weakness of the lower extremities. The most characteristic peculiarity of gait, and the most frequent, was an approximation more or less complete to the condition described by Charcot as steppage, or the gait of the stepper (high stepping horse). Here, as in similar conditions, the high action

[a] Pekelharing and Winkler have noted that the knee-jerk may be much increased at the commencement of the illness, and that there may be ankle clonus. Scheube tells that in one epidemic observed by him in 1880, knee-jerk was absent in 37 per cent. of the cases; in another, in 1881, it was absent in 48 per cent.

was evidently due to the difficulty of getting the drooping foot clear of the ground. This caused the knee to be raised too high, and the movement being unrestrained by the tone of the leg muscles this elevation of the knee was accomplished with a jerk. The foot was then precipitated forwards something after the fashion of the tabetic, but with this difference, that instead of the heel striking the ground first, as the foot was flopped down, the drooping toes struck first and afterwards the heel. As the patient walked bare-foot across the floor, the double impact was very evident both to the eye and ear (pseudo-tabes of Blocq). The patient leaned forward in walking, and when he clumsily brought his leg to the stationary point, it swayed under him. His tendency was to fall forwards, if unsupported. The maintenance of the static posture was difficult. This was partly owing to the relaxed condition of the knee-joint which wobbled with a tendency to too free backward movement, and partly to general enfeeblement of the extensors. The patient in endeavouring to support himself constantly changed his *point d'appui* from one foot to another, producing the "equilibrium of the velocipedist" of M. Grasset. All these conditions correspond to the well ascertained indications of peripheral neuritis, and may be found in the ordinary alcoholic variety. In a few of our cases of beri-beri they were presented in an exquisite form and under circumstances which rendered their study possible. In others the exact state described was more or less complicated, or in its typical form was transitory, being soon followed by increased paralysis which rendered walking impossible. In one case there was the characteristic steppage in one leg, while in the other a slight degree of lateral dragging of the whole extremity was added, producing a resemblance to the hemiplegic type. The muscles of the thigh were often paralysed. Here, as elsewhere, the extensors were first and chiefly affected. The degree of engagement was very variable. Some patients were unable to extend the knee even when lying in bed in a lateral posture. Others, though unable to walk, were able to stand so long as they could be kept in a perfectly upright attitude, but so soon as the knees were bent in the least they collapsed,

owing to feebleness of the quadriceps extensor femoris. Many patients could not rise from the sitting posture without help. Some restless and maniacal, being unable to walk or stand, progressed by sitting on the floor and helping themselves along by their hands placed behind them. Some patients, made to sit up on the edge of their beds with their feet out, used to help themselves back into the supine position by leaning on their hands and swinging their hips round so as to get their legs into bed without any movement of the thigh muscles.

The trunk muscles were seldom markedly engaged. The upper extremities were much less frequently engaged than the lower. Contrary to the habit of lead, the beri-beri poison attacks preferentially the nerves of the lower extremities. In something less than 1 per cent. of all our cases there was actual drop wrist, and in one case this condition was extreme. In others the power of extension was impaired, and there was marked tenderness of the arm muscles.

General muscular feebleness was not uncommon, showing itself by indisposition for exertion of any kind, inability to maintain any posture of strain, and a tendency of the limbs to assume whatever position gravitation favoured. In a few extreme cases this condition passed on into a state of universal paresis, in which the patient seemed to have little power of voluntary movement of any kind.

In one case ptosis, external strabismus, and dilatation of the pupil occurred unilaterally. Engagement of the third nerve is a rare condition in beri-beri. Scheube does not mention its occurrence, but says he saw one case of ocular palsy affecting the external rectus, and quotes Da Silva Lima as having seen in rare cases strabismus and double vision.

On the other hand, facial paralysis, single or double, difficulty of swallowing, difficult movements of the tongue, and disturbance of articulation were not observed.

The sphincters were never paralysed in our cases.

The paralytic phenomena were not infrequently much more marked on one side than on the other. This irregu-

larity has been observed by Scheube, who has also noted that the arm of one side and the leg of the other may be chiefly affected. This observer has also seen the paralysis confined entirely to one side, and he tells of a case in which, throughout three attacks, only the left leg was affected.

It may be mentioned that in some of our cases the sensory and dropsical phenomena like the motor showed a marked preference for one side.

The affected muscles in the earlier stage often presented a peculiar hardness to pressure. This seemed sometimes pretty uniform; more often, however, the muscular mass presented irregularities as if containing hard lumps lying in the long axis of the muscle. This was specially noted in the inner portion of the gastrocnemius (Anderson and Scheube).

As the cases progressed, atrophy of the affected muscles set in. The muscles then became wasted, soft, and flabby. *Post-mortem* their changed appearance was manifest to the naked eye, a yellowish colour taking the place of the natural colour of flesh. Degrees of change in the fibres were seen under the microscope varying from mere loss of striation to marked granular or fatty degeneration. This atrophy of the muscles is the cause of the wasting which occurs in the so-called "dry" form of beri-beri. The disease, as my hearers are aware, has been divided by the earlier observers into two forms, the "wet" and the "dry"—meaning cases in which respectively dropsy and atrophy are predominating features. The division is very artificial and imperfect, for there is no real distinction, and a "wet" case may be found profoundly atrophic when the dropsy subsides and permits of a proper examination of the muscles.

A very remarkable condition of relaxation of the joints of the affected extremities was usually observed. Manson mentions the condition in his monograph in Davidson's "Diseases of Warm Climates," but does not dwell upon it, and I have not been able to find it referred to elsewhere in connection with beri-beri. It is nevertheless very striking. When a patient thus affected stands the knees

bend in a hyperextended position to a degree quite impossible in health, and which I have not seen save in the joint affection of tabes dorsalis. The arch of the foot is lowered, and a condition of flat foot is produced which is sometimes extreme. Again, if the patient is made to lie on his face and the knees are flexed, the heel can be readily made to touch the buttock on each side, the condition of the knee-joint becoming one of sub-luxation. Similarly the ankle-joint admitted of a degree of movement quite abnormal. In many cases if one grasped the shin and shook the limb, the foot swung about with a flail-like movement. In patients lying on the face with the heels resting on the buttocks, the feet fell inwards as though the anterior ligaments of the ankle-joints had been divided. I found this condition not only in patients in whom there was marked wasting of the muscles, but also in persons whose muscles were still plump, and whose gait was little or scarcely at all affected. I therefore think it is characteristic of the disease. Whether it is sufficiently accounted for by supposing that it is due to mere loss of support dependent on deficient muscular power I do not take upon myself to say; but having seen, a few years ago, a very extreme condition similar to this, occurring in connection with the knee-joint, in a case of tabetic general paralysis in which the bones had not undergone the changes common in Charcot's joint disease, I am inclined to think that there may be some specific trophic condition in diseases affecting the peripheral nerves, or the sensory neurons, whereby the ligamentous structures become altered. It is not due in beri-beri solely to wasting of muscles, nor does it only occur in persons long confined to bed.

Cardiac trouble is one of the most constant conditions in beri-beri. Palpitations occurred in 60 per cent. of Anderson's cases, and Scheube remarks that it is one of the most frequent subjects of complaint. All my sane patients complained either of palpitation or sense of oppression about the heart; very often of both. In one nurse palpitation was sufficiently severe and persistent to be alone a frequent cause of insomnia. On the whole, however, I

would say that tachycardia and irritability of the heart are more characteristic than palpitation. Tachycardia was, I think, invariable in our cases. It was often very well-marked when other signs were not advanced. Thus a patient while lying quietly in bed would have a pulse of 100, 112, or 120, while there was no apparent distress and little sensory or motor trouble, and when dropsy could only be detected by careful examination. Even more remarkable than the rapidity of the pulse was its irritability. The least exertion was commonly followed by a singular increase of pulse rate. A patient's pulse while he lay down was 100; when he sat up it rose to 120; when he walked 20 feet it rose to 140 or 160 or higher. The acceleration which followed even the slightest exertion was very alarming, and in observing maniacal cases, in which protracted restlessness was accompanied by a pulse too fast to be counted, alarm gave place to wonder. Spontaneous variation in the pulse rate—that is, variation occurring while the patient remained in the same posture and depending on no apparent cause—was common. A curious condition which has before been noted in beri-beri, but which has not, as far as I know, received any particular name, was so common and characteristic as to deserve a special appellation. I have, therefore, proposed to call it unconformability. In this state the heart's impulse and the pulse do not correspond. The heart is acting with apparent vigour; the impulse is perhaps very distinctly visible, at any rate feels forcible to the hand laid upon the chest; the sounds are loud and the impulse conveyed by the stethoscope is strong. Yet the pulse is small, maybe extremely small, sometimes little more than perceptible. It was not uncommonly found that the pulse counted at the wrist did not correspond to the heart, some beats being apparently altogether lost or a beat being registered by the sphygmograph which was too feeble to be felt with the finger. This unconformability varies in different cases and in different stages of the same case, but it is very generally present, and one soon learns to recognise it as a prominent feature in the disease. Action of the heart, so violent as to shake the whole chest and to be noticeable as soon as one saw the patient, occurred in some cases. This condition was common in the first epidemic

and in cases which terminated unfavourably. In milder cases and in the later epidemics it was by no means prominent. However, even there violent heaving action could be produced in some cases, by making the patient undergo any exertion, though it had not been evident when he was at rest.

The area of cardiac dulness was often increased, particularly towards the right. The singular phenomenon, observed in beri-beri, of a sudden increase in the area of cardiac dulness was confirmed in several of our cases.

Auscultatory signs varied. In some the normal order of the sounds was replaced by what Manson has called a pendulum sound, the sound of the tic-tac of a clock, the first and second sounds not having the ordinary relation to each other, but being about the same length, and each pair of sounds being separated from the rest by an interval of about the same length as that between the individual sounds. In many cases this tic-tac arrangement could be produced by slight exertion. Spontaneous variation of the rate and rhythm of the sounds occurred A very common condition was accentuation of the second pulmonary sound. Reduplication of the second sound was common, producing a triple rhythm. This was most generally audible at the apex. Occasionally reduplication or "splitting" of the first sound appeared. Sometimes *bruits* were audible, mostly in the form of a soft blowing murmur with the first sound over the pulmonary area, less often at the apex. These murmurs were variable and inconstant, and sometimes were audible only after exertion. Precordial anxiety was common even in slight cases, and the sense of weight and oppression about the heart was often distressing. In severe cases orthopnœa and urgent cardiac distress often ushered in the end.

Post mortem, varying degrees of dilatation, especially of the right side of the heart, with or without hypertrophy, were found in acute cases. In almost all cases there was marked evidence of fatty degeneration of the heart muscle.

Respiration was usually quickened, and was often accompanied with oppression, even when there was not œdema pulmonum. In a few cases a sense of weight and constriction was complained of, somewhat like a girdle pain. These

sensations may have been due to impairment of the respiratory muscles, intercostals and diaphragm. The respiration was in some cases thoracic from feebleness of the diaphragm. In several cases paralysis of the muscles of respiration obviously contributed to the end. Sometimes, even in cases which terminated favourably, there was for some time an inability to cough deeply or to sneeze.

Impairment or even loss of voice occurred in a few cases. In one or two cases sudden death may have been due to laryngeal paralysis, but this was not proved.

A feeling of weight and discomfort in the stomach was not an infrequent complaint. The appetite was often unimpaired, even in cases of some gravity. Some of the insane ate greedily and had to be restrained from doing so as they produced sickness of stomach by over-feeding. Vomiting occurred in about 5 per cent. of all our cases. In 1894 it occurred chiefly towards the end in unfavourable cases, and this is the experience of the Japanese physicians and others, so that vomiting has come to be considered a malum signum. It is probable that different epidemics differ somewhat in this as in other particulars.[a] In our later epidemics, vomiting had not the bad significance which it had in the first A few cases were preceded by vomiting and sometimes also by diarrhœa. The latter, however, was rare. Generally there was a tendency to constipation throughout, especially in cases in which there was much anasarca.

In a few cases albumen was found in the urine, usually merely a trace, and generally only as a transient phenomenon. The urine was apt to be scanty and concentrated in cases where dropsy was pronounced.

Œdema is one of the leading signs of beri-beri. I believe it is always present. It is sometimes slight, transitory and easily overlooked. It is perhaps correct to say, as is generally said, and as I am in the habit of saying, that it begins

[a] Ridley, writing from his experiences in Ceylon, says, "the irritability of the stomach is frequently so great as to preclude the use of medicine by the mouth." Evidently vomiting was common among his patients, and had no specially bad prognostic significance. In the epidemic at Sainte-Gemmes-sur-Loire, vomiting and diarrhœa were common prodromata.

in the pretibial region. It is usually easily demonstrated there in early stages of the disease and in mild cases. Unlike the œdema of cardiac or renal disease it does not begin about the ankles, which are often quite unaffected, but appears along the inner side of the tibia. This peculiarity has been noted by Pekelharing and Winkler, who describe the pear-shaped swelling resulting from the peculiar situation of the œdema. Slight œdema I have found could generally be detected early over the sacrum, frequently also over the sternum or ribs and over the ulnar border of the forearm. Not seldom, even in mild cases, and where one could not say that there was general anasarca, the face was notably puffy. Sometimes the feet and legs generally became œdematous. Some cases presented general anasarca, often extreme. The dropsy of the superficial tissues presented certain peculiarities. The degree of œdema in different parts of the body seemed to vary spontaneously—that is, without any assignable cause. Thus, one day the right side would be much more water-logged than the left, next day the condition would be reversed. Also the œdema seemed to shift with altered position more rapidly and markedly than is common in other dropsical states. It also disappeared sometimes with a rapidity unknown in other affections. The foregoing remarks chiefly apply to the marked cases of anasarca with deep pitting, which were common when the disease first appeared and less frequent in the later epidemics. It has been said that the œdema in beri-beri is more doughy than inclined to pit, that it is somewhere midway between the ordinary forms of dropsical swelling and a condition of myxœdema. This is the state found in Brazil, as I am informed by a friend who has seen beri-beri there. This is the state which I found among the beri-beri patients in the Suffolk Asylum in 1895, This state is also described by the recorders of the epidemic at Sainte-Gemmes-sur-Loire. This state did not prevail at the Richmond in 1894, but it was the more general form in which œdema appeared in the epidemics of 1896 and the subsequent years. It is particularly apt to occur in recurrent and chronic cases.

Œdema of the deeper structures was often the cause of death. Œdema of the lungs was common. Hydropleura was pretty constant in fatal cases and hydropericardium common. Occasionally a small quantity of effusion into the peritoneum was observed. The joints exhibited occasionally slight effusion, especially the knee. Dr. Swanzy examined the fundus oculi in some cases and found the existence of œdema. *Post-mortem*, œdema of the cerebral pia-arachnoid was often marked.

I did not find electrical reactions of the service which I had hoped from the observations of Pekelharing and Winkler. In some cases I could detect no electrical changes. There were many in which the changes were small. In several no abnormality was discovered except that the contractions were slow to galvanic stimulation, and the latent period long, the changes being only of a quantitative nature. Where there was marked atrophy of the muscles, reaction of degeneration was found. The electrical alterations seemed to disappear early in convalescence, and in this our observations confirm those of Zwardemaaker and Kraft, who have noted that the heart symptoms may long survive the electrical changes.

It may be well to summarise the clinical appearances and briefly refer to the general course of the cases. The affection occurred principally among the insane, solely among them at first. In the sane weariness in the legs with occasional cramps and breathlessness on slight exertion often preceded more definite signs for some time. Sometimes a smart rise of temperature ushered in the earlier symptoms, but this was by no means invariable, and in any case soon subsided. The disease, once started, was extremely variable in course. Some cases never passed beyond the mildest type of the abortive form (rudimentary form of Scheube).

In such cases there was often nothing more than disinclination for walking with weariness on slight exertion, slight and often transient œdema in the pretibial region, tenderness of calf muscles with impairment of cutaneous sensation in the leg (not always to be confirmed in the insane), and some degree of tachycardia. Occasionally in such cases the degree of cardiac trouble was

much in excess of the other morbid conditions, and some patients whose illness seemed trifling died suddenly. This occurred specially in the old, and in persons who had been debilitated by previous illnesses. Sometimes the course which the case ran was pretty uniform, more frequently it was very irregular. Cases which had begun mildly and had progressed favourably, often apparently merely showing the rudimentary type of the disease, suddenly became unfavourable and rapidly developed the worst symptoms. We had frequently the same experiences elsewhere described by those who have to deal with beri-beri—sudden changes for the worse in cases seemingly doing well; great frequency of relapse; occasional sudden death occurring when convalescence was believed to be progressing favourably. The duration of the disease was entirely uncertain.

On the whole, the severer forms seemed to tend to terminate more quickly, whether by recovery or death, than the milder. In cases which did not maintain throughout the rudimentary type, or in such cases when they relapsed, or in cases beginning acutely, there was a general tendency for the œdema, at first only perceptible along the front of the shin, or in a few isolated places to spread, sometimes with great rapidity, while diminution of sensation and loss of power spread or increased concurrently. Then the dropsy abated, leaving the patient still paralysed and extremely wasted. In favourable cases paralysis and anæsthesia then gradually passed off. Alarm and distress often arose from the condition of the heart, and this organ was, as has been said, often affected disproportionately to the other symptoms. Some patients becoming more and more water-logged, or some in whom anasarca was not extreme, showed often quite suddenly extreme dyspnœa with inability to lie down, became dusky or leaden or cyanosed, exhibited violently throbbing carotids and a dilated heart, whose pulsations shook the whole chest, while a flickering pulse was hardly perceptible at the wrist. A sensation of suffocation, an intolerable feeling of oppression about the heart, gave rise to intense suffering. This condition, as has been said, sometimes set in with fulminating rapidity. It was usually ushered in by vomiting, a circumstance which has made the

latter symptom of such bad omen in beri-beri. The Japanese know this state under the name of "shiyo-shin," and say that it is never recovered from. The condition is obviously due principally to the failure of a weakened and probably degenerated heart to carry out the extra work thrown upon it. This is accentuated in some cases by effusion into the pericardium, by œdema of the lungs, and by impairment of the diaphragm and other respiratory muscles. Exclusive of shiyo-shin, death often appeared to be due to œdema of the lungs. Hydropleura and hydropericardium were at least contributing agents in some of our cases. Paralysis of the respiratory muscles, particularly the diaphragm, was sometimes responsible for death. Some patients seemed to die slowly of mere general exhaustion, but in these fatty degeneration of heart muscle was usually found. Some beri-beri patients readily succumbed to intercurrent affections. In the epidemic of 1894, quite a disproportionate number of epileptic lunatics were attacked by beri-beri. This at the time I inclined to attribute to certain special unfavourable conditions existing in the epileptic wards (particularly overcrowding, &c.), but in this I was wrong, as I now believe, for the special tendency of beri-beri to attack epileptic patients has since then been noted elsewhere (Tuscaloosa and Sainte-Gemmes). Epileptic sufferers very often died in the status or immediately after a fit. Considering the strain which epileptic seizures throw upon the heart, one cannot wonder at this.

Sudden death from syncope occurred in some cases, and occasionally in cases of patients who were apparently progressing to a favourable convalescence. In one such case little could be found in the heart muscle to account for the occurrence of death.

The great danger always present in beri-beri is sudden heart failure. Now how this comes about is, I think, intelligible enough if we consider the other symptoms in connection with their recognised cause. In beri-beri we find degeneration of the peripheral nerves, and we find losses of power and of sensation which we can quite definitely associate with such degeneration. Some of these latter symptoms (anæsthesia, &c.) come and go with remarkable

rapidity. They disappear with such suddenness in some cases (see above) that we can scarcely suppose an alteration could be detected in the nerves engaged. But if the nerve involved instead of subserving the function of sensation in the skin of the leg or the integument round the mouth had to do with the movements of the heart or with its nutrition, it is evident that the gravest consequences might follow from what elsewhere would be a mere temporary derangement of function. Or, to look at the matter from another point of view—there is a form of peripheral palsy with which we are all familiar. When a man dozes in a railway carriage and through pressure on the sciatic trunk his leg "falls asleep," we have a tolerably close reproduction of what we find in beri-beri. We have the same combination of anæsthetic and hyperæsthetic conditions. Normal sensation is abolished, but paræsthesia and painful anæsthesia are very marked. Muscular power is diminished or abolished, and attempted movement gives rise to sharp pain. Even the inability to lean upon the extremity, owing to complete relaxation of the knee-joint, is reproduced. We know the cause of this pressure-neurosis. We know that it is an entirely temporary condition, but if we can imagine a similar condition, equally temporary or trivial in its essential nature, occurring in the pneumogastric nerve, we see clearly that the death of the individual would result, and this because the functions of the pneumogastric nerve are such as do not admit of temporary suspension.

ART. II.—*Hospitals: their Origin and History.*[a] By RICHARD DALTON, L.R.C.P.I., L.R.C.S.I., &c.; President of the Cork Medico-Chirurgical Society (1899-1900).

I DO not propose in this paper to consider hospitals from a purely architectural or scientific standpoint, though I hope to incidentally touch on both these aspects of the subject, if not in the present paper at least in a future one. I shall confine myself wholly to the origin and history of hospitals.

Hospitals are in ascertainable existence about fourteen hundred years. The best and greatest of men have during this enormous length of time devoted their intellects to the study of them—how they may be best constructed, how they may best serve their object. Yet, after all this, if much has been done it is equally certain that a greal deal remains to be effected; for, although our present hospitals are a vast improvement on their predecessors, it will not be pretended that no further improvement is possible, and that we have reached the stage when further advancement cannot be made.

Now, I, a minnow among the Tritons, must humbly decline to step in where great ones, if they do not fear to tread at all, yet tread very lightly. Time alone must give finality to these questions, and if I do not attempt a solution, or decide what is to be done or undone, I shall seek consolation from the expression of the, perhaps, infallible pope of English poetry, when he asks—

"Who shall decide when doctors disagree?"

Hospital has been derived by Mayne from the noun Hospes, a host, also a guest; a charitable establishment for the relief of the sick poor, their lodgment and maintenance during treatment. With the Romans, "Hospitium" meant the place in which a guest was received. The English "Hospital" is derived from the French "Hôpital." From the same source also came "Hospice" and "Hotel."

The three words are used in different senses—hospital being restricted to establishments for the temporary occupation of the sick and hurt, for the purposes of medical and surgical treatment; hospice to places for permanent occupa-

[a] The Presidential Address delivered before the Cork Medico-Chirurgical Society, on Wednesday, November 22, 1899.

tion by the poor, the infirm, the incurable, or the insane; and hotel is applied to dwellings, either private or public, for ordinary occupation.

In France "hotel" is used in the sense of hospital, as in the "Hôtel Dieu." In England "hospital" is applied to places for the treatment of the sick, and also to alms-houses. By "infirmary" was originally meant a place set apart, usually in a monastery, for the reception of the sick, and also for those whom accident or age had rendered incapable of work.

Milton in his sublime poem beautifully suggests the origin of the hospital. When to bring home to the mind of Adam some sense of the enormity of his crime and its consequences the Angel Gabriel raised the veil from futurity, and displayed in long and dread perspective the miseries and afflictions of unborn and countless generations of men—his posterity—one of the most pitiful and awful was the spectacle which disease in its myriad forms was to bring to them :—

> "A lazar-house it seemed, wherein were laid
> Numbers of all diseased; all maladies
> Of ghastly spasm, or racking torture, qualms
> Of heart-sick agony, all feverous kinds,
> Convulsions, epilepsies, fierce catarrhs,
> Intestine stone and ulcer, cholic pangs,
> Demoniac frenzy, moping melancholy,
> And moonstruck madness, pining atrophy,
> Marasmus and wide-wasting pestilence,
> Dropsies and asthmas, and joint-racking rheums."

They, to whom death should have been the last and greatest terror, yet were happy to welcome his approach, and to invoke him to deliver them from worse than himself. Well might Adam avert his gaze from the picture, and question his creation in impious murmurs; but it must have mitigated his anguish to know that the same Providence which permitted the ill also supplied the remedy and the cure; and if the fallen archangel resolved in his despair "out of good still to find means of evil," yet heaven has inspired its human agents to reverse the operation, and out of evil still to find means of good.

Amongst the Greeks every temple in which the principles and practice of Æsculapius were venerated was practically a hospital, and patients came from far and near to place

themselves under the care of the priests and physicians, who were chiefly the sons and descendants of Æsculapius, and were collectively known as the Æsclepiades.

One of the earliest references to a place where the sick were brought together occurs in "Holy Writ." The "Pool of Bethesda" had a number of sheds erected on its shores for the lodgment of the sick who came to drink its waters, then held in great esteem for their miraculous curative properties.

A noble Roman lady, Fabiola, built a hospital in the Capitol about 370 or 380 A.D., probably at the suggestion of St. Jerome, whose friend she was.

Prescott, in his "Conquest of Mexico," states "that hospitals were established by the Aztecs in their principal cities for the care of the sick and the permanent refuge of disabled soldiers, and surgeons were placed over them, who, in the words of a cynical old chronicler, were so far better than those in Europe that they did not protract the cure in order to increase the pay."

But it is to the Church, the benign Mother of all our institutions, that the invention of the hospital must be ascribed. During the many years that transpired between her foundation and her triumph over the worn-out creeds of Greece and Ancient Rome, her lot was obscurity and suffering—the contempt of the philosophic and the worldly, the hatred and persecution of the powerful, the poisonous darkness of the mines, and the manacled horror of the galleys.

In those primitive times poverty was not the fearful problem which confronts us now-a-days; for the Christians lived in community of charity and of wealth, and the rich man loved the poor man, and the lowly loved the great. The Church, to be sure, never proposed to herself the abolition of poverty and disease, and although we may not believe that the latter was not to be found among her body, yet the zeal and the virtues of her members found means which were equal to her necessities and her difficulties.

But when the hour of her recognition and liberation arrived, and the edict of the Christian Constantine in the fourth century delivered the slaves of the mines and galleys from their servitude, an immense multitude of the maimed, the

helpless, and the hopelessly poor, were thrown on her hands, and looked to her for protection and assistance.

Private benevolence and philanthropy were no longer equal to the urgency and the magnitude of the occasion, and the wisdom which is always hers devised the erection or the appointment of buildings which would be specially devoted to the relief of suffering humanity.

Within these walls the noble, the patrician, even the Emperor himself, were to be constantly found administering words of comfort, and more effectual because practical assistance to their afflicted brethren—a spectacle so novel and necessarily so admirable to the Pagan mind that on the temporary eclipse of Christianity under Julian the Apostate the latter strove to emulate, by encouraging such institutions, the greatness and the goodness of Constantine.

As the Church was the mother, inventor and protector of the hospital, her sons, as it should be, have had the largest share in all climes and countries in furthering her benevolent desires.

The early history of the hospital is to be looked for in the history of the monasteries and the lives of notable members of the Church. Each priory had its "infirmaria" and "infirmarian."

One ecclesiastical organisation stands pre-eminent in the history of the world's good deeds. The Knights Hospitallers, Knights of St. John of Jerusalem, of Rhodes and of Malta, as they were called at different periods, require special notice. They were men of the noblest families who voluntarily resigned the world and its pleasures, delivered their wealth and took oaths, amongst others, "to be chivalrous to women, to remain celibates, and to succour the needy and to minister to the sick." Their first hospital was built in the ninth century at Sienna. The Order was established in Jerusalem after the taking of that city by the Crusaders in 1099. Their first Grand Master, Gerard Tour, provided hospitality for pilgrims and attended them when sick. In 1121 they took arms against the Saracens, and thus became a military as well as a religious organisation.

On Saladin re-taking Jerusalem, they retired first to Acre, and afterwards to Rhodes, in 1380. Driven from this island

after a protracted siege and memorable defence, they established themselves on the island of Malta, which had been given them by Charles V. They remained here for three centuries, the terror of the infidels, until Bonaparte took Malta on his way to Egypt, and removed the Order to France; since which time the Knights of Malta have only existed in name, the only modern reminder of the once glorious Order being the Ambulance Association.

Another Order, that of the "Brother Hospitallers," was founded by John de Dios, a Portuguese of very humble origin, about the year 1530.

This extraordinary man commenced his career of usefulness by converting his home, a deserted shed, into a very primitive hospital.

He attracted many pious men, whom he enrolled into the Order of Brother Hospitallers. He became possessed of a large building capable of sheltering three hundred sick and destitute, and in this way originated the first hospital of the Order of Charity.

Mrs. Jameson, in "Legends of the Monastic Orders," writes of him and his work:—"Under how many names and forms has the little hospital of John de Dios been reproduced throughout Christian Europe. Our houses of refuge, our asylums for the destitute, the Brotherhood of the 'Caritad' in Spain, the 'Misericordia' in Italy, the 'Maisons de Charité' in France. All these sprang out of the little hospital of John de Dios."

He died in Spain in 1550, and was added to the Calendar by Alexander VIII. a hundred years later.

Many paintings have represented him in the garb of the Capuchins (including a masterpiece of Murillo), with a hospital interior for a background.

St. Vincent de Paul, "the agent of Providence and the father of the poor," justly esteemed throughout the Christian world in our as well as in his own days, founded the first "Maison des enfants trouvés" in France. The Hospital "La Madeleine," for the treatment and reclamation of the fallen women of the streets of Paris, and, most notable of all, the famous Order of the Sisters of Charity, who "had neither nunneries nor houses for the sick, for cells only a hired room,

for their chapel only the parish church, for their cloister only the streets of the town and the wards of the hospital, for protection only the fear of God, and meanwhile they preserved themselves from the contagion of vice and caused virtue to germinate wherever they placed their feet"—a description of them that is as true to-day as when it was written.

The early history of hospitals in these islands is shrouded in darkness, and only very sparse evidence remains to us of their institution before the Norman Conquest.

Sir James Simpson states that there was a "leper" hospital in Nottingham in 625 A.D.

The bulk of authority goes to prove that the first English hospital, or "leper-house," was not established until the eleventh century. It appears, however, certain that hospitals or "leper-houses" existed in Ireland as early as 869—a strong evidence of the high state of civilisation that existed in the Green Isle at that early date.

Archbishop Langfranc built a hospital at Canterbury in 1089. Hospitals were built at Chatham and Northampton in the reign of Rufus. They were supported by small endowments and had many benefactors, but, like the same institutions of to-day, suffered from "a chronic state of impecuniosity."

Remigius, Bishop of London, built a "leper-house" which existed as such for two hundred years, and was then converted by Edward III.'s Commissioners, who found "nine poor brothers and sisters in it, only one of whom was a leper."

Matilda, the Queen of Henry Beauclerc, endowed a hospital in London with the sum of three pounds (£3). This paltry sum was intended for the support of forty patients and three officers. The only other means of support was the "sound dish," which the patient took around to the fairs and markets, somewhat after the fashion of the modern hospital street collection.

When one thinks of the munificent bequest of the late charitable lady, the Viscountess Combermere, to our Cork North Infirmary—£28,000—a very favourable comparison between former and present benevolence may be drawn,

though, of course, we must not forget the very much greater value money had in the middle ages.

About this period many hospitals appear to have been founded, as grants of land were given in Middlesex, Holborn, and many other places for their support. One charter is extant over the seal of the then Earl of Essex, which included with other gifts a sum of sixty shillings (60s.) and thirty shillings and four pence (30s. 4d.), "perpetual alms to buy them lights."

The management and control of the hospitals remained in the hands of the clergy, their founders, and even were protected by the Supreme Pontiff; as we read in the time of King John, when England was laid under an interdict, Pope Alexander IV. took St. Giles' Hospital under his especial protection, and confirmed its estate and privileges.

At the Reformation the hospitals, with their estates and revenues, were taken from the ecclesiastics, and while some were diverted to other uses, others were retained for their original purposes. The most notable of these were St. Bartholomew's Priory in Smithfield, St. Thomas's in the Borough, Bethlehem, Christ's Hospital, and Bridewell, or St. Bride's Well. These were called the five "Royal Hospitals." Three of them remain to this day fulfilling their merciful missions. Bridewell, or St. Bride's Well, became a house of correction, and its name has been adopted for all police stations in which prisoners are detained for trial. Christ's Hospital ceased as such. St. Bartholomew's Hospital, founded by Rahere, a minstrel, in 1123, was re-founded in 1547, escaped the great fire in 1666, and was rebuilt in 1692.

It is now a splendid charity, containing about 750 beds, and officered by some of the most eminent men in the profession.

Bethlehem, or Bedlam, a priory founded by Simon Fitzmary in 1247, was converted by Henry VIII. into a lunatic asylum.

St. Thomas's Hospital, founded in 1228, was removed to its present commodious and beautiful buildings on the Embankment in 1871. It contains 569 beds, and includes on its excellent staff our eminent compatriot, Sir William MacCormac.

In Ireland, in common with the sister countries, the loath-

some and dreaded leprosy was endemic for several centuries, and many hospitals were built for the segregation of its wretched victims.

A hospital was erected in Waterford in 1385, in Westmeath in 1392, and from that date to 1440 hospitals appeared in Cork, Cloyne, Leperstown (from which the famous racecourse—Leopardstown—takes its name), and also in Galway, Wexford, Lismore, Dungarvan, Dublin, and many other places.

The Dispensary had its origin in 1687, when the Royal College of Physicians of London passed a resolution enjoining its licentiates, members and fellows, "to give their advice gratis to all their sick neighbouring poor, when desired, in the city of London, or seven miles around."

In 1688, with the view of rendering this more effectual, a resolution was passed, "that the laboratory of the College should be fitted up for preparing medicines for the poor, and also the room adjoining for a repository."

This order gave bitter offence to the apothecaries, who raised a party in the Council of the College to prevent its adoption.

A celebrated quarrel arose in this manner between the apothecaries and the physicians, who, again, in 1649 sent strict injunctions to their members to obey the order of the Council. Two years later the physicians raised a fund among themselves for the support of the charity.

This controversy brought forward the famous Sir Samuel Garth, a fellow of the College, who, despising the narrow-minded conduct of the apothecaries, lampooned them mercilessly in his splendid satirical poem, "The Dispensary."

The golden age of hospital construction was the eighteenth century. No fewer than eleven hospitals, including Guy's, St. George's, the London, the Westminster, and the Middlesex, were built in London alone from 1719 to 1747, and twenty-seven were built in the English provinces from 1710 to 1797. In our own island at least fifteen hospitals, including Mercer's, Jervis-street, Stern's, the Meath, and the first Obstetric Hospital in the world, the Rotunda, being built in Dublin alone. In our own city we have the North Infirmary, the oldest established hospital of this period in Ireland. It was incorporated by Act of Parliament in 1722.

The South Infirmary, the sister institution, was founded fifty-one years later, in 1773. The Cork Lying-in Hospital was founded in the memorable year of "'98," in a very unsuitable building in Nile-street, and only quite recently has been transferred to its present situation.

This brings us to the present century, of course in the merest sketchy way.

The chief difficulty I have to contend with in a paper such as this, is to reduce it within reasonable limits. I shall not put your patience to such a severe test as to merely mention the principal hospitals of this century, as I should only do, not one-thousandth part as well, what Sir Henry Burdett has so excellently performed in his monumental work.

There are few human institutions which have not been at times subject to adverse criticism. At this time of day it may appear—

"Wasteful and ridiculous excess"

to defend the hospital system. We all must admit that serious grounds existed for doubting the good results achieved by hospitals.

That they are among the first, if not the first, necessity of civilised communities, none can deny; but that there were many and grave errors committed during their evolution everyone must as readily admit. It would require much longer than the time at my disposal to touch, however lightly, on the many causes that led profound thinkers to the belief that instead of being the greatest blessing devised by mankind for its diseased poor, the hospital was a positive danger, and helped rather to increase than to diminish the death-rate.

I must, however, as briefly as I can, refer to a few of the more important causes—the ignorance of hygiene, of soils, sites, ventilation and overcrowding, materials, dietetics, the carriage of sewage, and the thousand and one details which must be beyond reproach in hospital construction; and the frightful mortality from pyæmia and septicæmia, hospital gangrene, erysipelas, tetanus, puerperal fever, and so forth, in great measure due to the very crude knowledge of "infectious processes" possessed by our predecessors, were among the principal causes that led to this untoward result.

A very strong indictment against lying-in hospitals was

made in 1874 by Dr. Lefort, who made a collection of 888,302 women delivered in hospital, and of 934,781 delivered at home, with the surprising result that the former showed a mortality of 35 per thousand, and the latter only $4\frac{3}{4}$.

Baron Meydell showed, in 1876, practically the same result in the different institutions at Petersburg.

Not alone in lying-in hospitals, but also in general hospitals of recognised excellence for their date, a similar result had but too often been seen.

A great mortality in the Hôtel Dieu of Paris in the last century was a terrible indictment, not so much against the hospital system as against the incredible disregard of previous lessons exhibited by the hospital authorities.

It was an ordinary occurrence in that hospital to see two or three small-pox patients, or several surgical cases, or even four parturient women, lying in one bed.

Indeed, some of the beds were constructed for four patients, and, as often as not, six patients were crowded into them. It would be unfair not to state that the law of France was to blame for this extraordinary state of affairs, as it was obligatory on the staffs of the hospital not to refuse admission to anyone.

I would be glad for one if our Statute Books contained such a law, always providing, of course, that ample funds and accommodation were at the same time forthcoming.

In 1773, owing to this law, 3,418 patients—which number could be increased to 4,320—were contained in a hospital, the Salle St. Roch, which covered only three English acres, giving a gross area of only thirty feet per head.

In England and elsewhere the same system prevailed. Not only were the hospitals overcrowded, but one would think that fresh air was a positive danger, so insufficient was the ventilation. In some hospitals beds were in contact, and practically no free floor space was allowed. In all hospitals the area allowed to each patient was ridiculously inadequate. It does not require any argument to prove the evil effects of vitiated air, the aggravation of disease, the increased intensity of the undiluted morbific agents, the retention of organic matter, and the products of combustion, well known agents in fostering disease, notably "tuberculous processes."

The Royal Commission of 1857 showed conclusively the deplorable results of insufficient or defective ventilation, the death-rate from phthisis alone among the soldiers being 11·4 per thousand, a much higher rate than obtained with the civil population.

The sewage arrangements, the wretched plumbing work, with every effort made to "bottle up" rather than ventilate the drains, the sewers, or rather cesspools, running under the buildings, discharging their deadly gases into the wards above; the inferior, unsuitable, insufficient, and ill-cooked dietaries, served in anything but an appetising manner, and the ignorant nursing of the "Sairey Gamp" type—all added their quota to the causes that caused the hospital of former days to fall short of the immense and incalculable good done for suffering humanity by the hospital of to-day.

But now, with the wisdom derived from centuries of research, experience and experiment, with the carefully chosen and prepared sites, the splendidly designed and ably constructed buildings, the minutest details of which, from the concrete basement to the promenade roof, have received so much anxious consideration, the immense advances made in that digest of all the sciences—Hygiene—the magnificent contributions of Louis Pasteur, and the deductions of Lord Lister, the ceaseless designs for the bewilderment or destruction or banishment of the ubiquitous microbe, the blind worship of the modern goddess—Asepsis—and the gratifying results from the attention paid to nursing, we may safely say that all that is possible to do so far, bearing in mind our many difficulties, towards the prevention and the cure of diseases, principally as regards, perhaps, the chief means to that end—namely, the Hospital—has been done; and that as we have profited we believe to the fullest extent by what we have derived from all the ages past, so let us hope that the heritage which we bequeath to those who shall follow shall be the agent of no less benefit to them than honour to us.

ART. III.—*On the Examination of Sick Children.*[a] By LANGFORD SYMES, F.R.C.P. (IREL.), &c.; Physician to the Orthopædic Hospital of Ireland; Physician to the Convalescent Home, Stillorgan; Physician to the Homes for Destitute Children.

THE clinical examination of sick children differs in some respects from that of adults, and as their diseases, symptoms, and treatment are in many ways diverse, it occurs to me that it might be useful for us to consider to what special points in their case particular attention should be directed—what peculiarities strike the physician in his visits to the children's ward.

Young children never know the seat, nature, or cause of disease. Their friends often mislead one, being themselves in ignorance, and so its discovery is entirely dependent on the physician's powers of physical examination. Hence it necessarily follows that *every organ* should be examined.

With adults we have intelligent speech to help us, a reliable and usually sensible patient to question, a sick man who knows the beginnings, if not the cause or seat, of his malady, and who may even guide us as to its best mode of treatment. All these being withheld in childhood and infancy, the diagnosis is consequently more difficult.

I do not think it matters much in what order we take the organs for examination, provided that they are all carefully scrutinised; but it does seem desirable that in the younger infants some routine method should be adopted, for to this it will be found easy and wise to adhere afterwards. Some organs are, I believe, better kept to the end, and certain points easier to note early. A little study of these questions teaches us what to avoid. First, delay must be avoided; the examination must be made very quickly in some instances, else it will not be permitted at all. Roughness must be avoided, for a rough or heavy handling will reveal very little. Again, interruptions should be avoided; once we have examined a child it is a very bad practice to be obliged to return to attempt a

[a] Read before the Section of Medicine in the Royal Academy of Medicine in Ireland on Friday, December 15, 1899.

review of some organ previously omitted. Moreover, this will be frequently resisted. It should, therefore, be complete.

The method or routine which I have been led to adopt, and find useful, has this advantage at least, that once the physician's hands are laid upon the child the whole examination can be gone through without their ever being lifted off.

In this procedure the child, if in bed, must be stripped quite naked and rolled in a blanket; and if in the out-patient department, for the first visit, should be undressed by a nurse in the ante-room, and sent in to the physician clothed only in a long flannel dressing-gown. (In every proper dispensary for children there is a dressing-room, through which the children pass, situated between the waiting-room and the physicians' consulting-room.)

Before proceeding to examine any child it is of great importance to know the history. The following history is a rough sample of what should be obtained from the mother or person in charge, for the patient is quite unable to assist one. It differs in many respects from that obtained from adult patients:—

History.—What the child has been brought for? How long ailing? When last quite well? Beginning, cause, or progress of illness? If born properly or prematurely? Particulars of labour and condition after birth? (by this inquiry *premature birth*, *hæmatoma*, *visceral or mucous hæmorrhages*, *asphyxia*, *obstetric paralyses*, *umbilical conditions*, *septic infections*, *icterus neonatorum*, *tetanus neonatorum*, or *mastitis* will be fully revealed). How long fed at the breast, and when first given artificial food? How much? How often? How mixed? When weaned? (by these questions we shall often discover the causes of some of the most fatal diseases of children—*marasmus* and *atrophy*, *rickets*, *scurvy*, *diarrhœa* and *dysentery*, *flatulent colic*, and *dilatation of the colon*). Commencement and progress of dentition? What previous diseases, and when? (especially we should inquire for *thrush*, *rashes*, *snuffles*, *diarrhœa*, *fits* or *convulsions*, *whooping-cough*, *mumps*, *diphtheria* or *croup*, *rheumatism* or *growing pains*, and infectious diseases). How many other children living?

Their health? Children lost (causes)? Miscarriages? (for *syphilis*). Mother's health and history? (especially for *rheumatism*, *syphilis*, or *tubercle*). Father's health and history (*rheumatism*, *syphilis*, *tubercle*), and, lastly, the hygiene or sewerage of the house?

All these particulars throw a vast amount of light upon the case, and should be in writing on the note-sheets at the head of each child's bed, and obtained by the clinical clerk on its admission from the mother or friend before they are allowed to leave the hospital.

Examination.—The following order is recommended:—

I. "Facies."—The general appearance of the child is to be first noted—pale and anæmic, florid, sallow or jaundiced in complexion; fat and well-nourished, or pinched and wasted; well-developed or dwarfed; joy or sorrow; pain or ease. The attitude, if at ease, distorted, choreic, paralytic, or anywise crippled. The gestures; how it receives objects, &c. Its sanity and intelligence, and state of cerebration (*idiocy*, *cretinism*, *moral insanity*, or *mania* will be evident). Conscious or comatose (drowsiness and stupor in children may result from *uræmia*, *epileptiform convulsions*, *organic cerebral disease*—such as hæmorrhage, effusion, abscess, or tumour; *hydrocephaloid* condition in *summer diarrhœa*, *ptomaïn* or *food poisoning*, formerly called gastric attacks, and sometimes from *pneumonia*, *drugs*, or *alcohol*). If it cry or cough the voice will reveal its pulmonary and laryngeal condition (for instance, it may tell us of *whooping-cough*, *diphtheria*, *laryngitis*, *laryngismus*, or *pneumonia*). Again, *œdema*, *cyanosis*, *skin affections*, or *eruptions* are at once obvious; also the rashes of *purpura*, *chicken-pox* or other infectious fevers. Respiration is visible. The physiognomy alone often reveals disease (*e.g.*, *chorea*, *pleuro-pneumonia*, *meningitis*, "hippocratic facies" of impending death, *adenoids*, *Bright's disease*; wasting of *diarrhœa*, *atrophy*, or *marasmus*, with Jadelot's lines on the face; *inherited syphilis*, with its rash, snuffles, fissures, or "Hutchinson's teeth," &c.). The state of the ocular muscles and pupils is usually easily observed, and may reveal paralysis from *cerebral abscess*, *cerebral tumour*, *thrombosis of sinuses*, *tubercular meningitis*, or *diphtheritic paralysis*.

II. The child being now stripped next pass both hands carefully over THE HEAD. Observe if sweating exists (as in *rickets*.) Note its size and shape—whether microcephalic, hydrocephalic, rickety or "natiform," with "bosses" or osteophytic nodes on the surface of the bones. The sutures may be prematurely closed (*microcephalus*), unduly patent (*hydrocephalus, rickets*), or grooved. The anterior fontanelle, usually closing about the eighteenth month, may be obliterated too early (*microcephalus*); widely open, with resilient attenuated edges (*hydrocephalus, rickets, cretinism, achondroplasia*, formerly called fœtal cretinism, and in some *dwarfs*); tense and prominently bulging (*meningeal effusion, hydrocephalus, cerebral tumour, whooping-cough, posterior basal meningitis, bronchitis*): flat or deeply sunken and depressed (*collapse, diarrhœa, cholera infantum, "hydrocephaloid" condition, wasting diseases, malnutrition*). "Craniotabes" may be felt—*i.e.*, thinning of the occipital bones so as to yield under the pressure of the finger (indicating *syphilis, rickets, chronic hydrocephalus*). Measurements of the head are also necessary in some of its diameters in correctly estimating mental capacity.

III. The hands now pass down from the head and examine the entire FRAME, bones, and joints. The shoulders, arms, hands, fingers, chest, ribs, hips, legs, and feet. (*Rickets, scurvy rickets, rheumatism* with its *subcutaneous nodules, torticollis, clubbed fingers, deformities, joint affections* and *bone diseases, sarcoma, erythema nodosum, œdema, chilblains*, and *pseudo-hypertrophic paralysis* are thus at once observed.)

IV. The REFLEXES are easily commenced next, as the hands are now touching the feet. Plantar, "ankle clonus," knee-jerks, cremasteric, abdominal, epigastric, facial irritability (for *tetany*), and ocular reflexes. The reflexes are a most valuable index to the state of the nervous system in infants, and *neuritis, chorea, diphtheritic paralysis, infantile paralysis, Friedreich's disease, meningitis* in its many forms, *spastic paraplegia* (cerebral paralysis), *birth palsies* and *hemiplegia* can frequently be differentiated thereby.

V. The EYES should now be scrutinised—pupils, *ocular paralyses*, vision, photophobia, nystagmus, &c. The EARS

for *otorrhœa*, &c., and the NOSE for *snuffles* (a common sign of *syphilis*), ichorous discharges, depressions, *adenoids*, &c.

VI. The GLANDS are now commenced:—Parotid, cervical and submaxillary, thymus and thyroid, supraclavicular, axillary, and inguinal; showing perhaps *mumps*, *Hodgkin's disease*, *tubercle*, *sarcoma* or *new growth*, *syphilis*, *glandular fever*, or with an atrophied thyroid *myxœdema* or *cretinism*.

The hands will now lie upon—

VII. The ABDOMEN; the gentlest palpation possible will alone reveal its true condition. First observing the INTESTINES we look especially for *abdominal tubercle*, *tubercular peritonitis* with *bands of lymph*, *tubercular ulceration of the bowels*, *enlarged mesenteric glands* or *tabes mesenterica*, *ascites*, *tumours*, *intussusception*, *constipation* or *dilatation of colon*. Next we measure the LIVER by finger-breadths below the costal arch and feel its edge. It is relatively larger in infants than in adults, while its diseases are not so common. Then the SPLEEN may often be felt and measured. Enlarged spleen in infants is common in *splenic anæmia*,[a] *rickets*, *tuberculosis*, and perhaps *syphilis*. The KIDNEYS should also be sought for, and if felt some morbid condition has either enlarged or displaced them, as they should not be felt in health, *sarcoma*, *new growth*, and *cystic disease* here occur to the mind.

In connection with special abdominal diseases the RECTUM must be examined, but as a routine practice it is not, perhaps, required.

VIII. The HEART is now quite close; see its apex beat; feel its impulse or thrill; map out its area of dulness. Enlarged area of cardiac dulness in children occurs in *chorea*, *pericarditis*, *diphtheritic paralysis*, *rheumatism*, some cases of *congenital heart disease*, and *whooping-cough*. In an epidemic of whooping-cough last spring I found a remarkable

[a] I would here remind you that splenic anæmia was first depicted by an Irish observer, Dr. Francis Battersby, Surgeon to the Institution for Diseases of Children in Pitt-street, Dublin, who published his careful observations in the Dublin Quarterly Journal of May, 1849, as "Tumefaction of the Spleen in Children." Continental and English observers have since confirmed many of his results. It occurs amongst the wealthy classes just as in poor children.

increase in the area of cardiac dulness. Appreciate its sounds, and detect its murmurs—functional, organic, or congenital. Congenital heart disease consists of *patent ductus arteriosus; patent foramen ovale*, or, most commonly, *a deficiency of the ventricular septum.* It will be known by cyanosis and clubbing of the fingers; loud, musical systolic murmur; feeble apex beat; usually absence of thrill; and its occurring in a child under three years old.

What is termed *Eustace Smith's sign* may sometimes be heard at this juncture—*i.e.*, a murmur over the manubrium on bending back the head, usually indicating *enlarged bronchial glands.*

IX. The LUNGS are now beneath the hands—anterior, superior, sides, posterior. Especially look for *atelectasis* or *collapse, broncho-pneumonia,* with its miniature patches of dulness so difficult of detection, and *empyema. Tubercular lobular pneumonia* is also a very violent disease in children. Of all lung diseases, however, one of the most peculiar is that known as "*apex pneumonia.*" Very masked, resembling enteric fever, with delirium, convulsions, and very little to show, it is liable to be passed over. It was called from its delirium "cerebral pneumonia," but, as shown by Dr. Sturges, it is only because the other signs are less that the delirium is more striking.

The child will now for the first time be sitting up, and when the posterior portions of the lungs have been examined, glance next at—

X. The SPINE. Test its curves, prominences, depressions, suppleness, or rigidity. Especially we must beware of *rickety curvature of the spine* distinguished from Potts' disease—viz., forming a wide curve, disappearing on lifting the child, and by being unaccompanied by pain or much stiffness. Also we must recollect *paralysis of the muscles of the back* from *diphtheritic paralysis, tumour of the cord,* or *anterior poliomyelitis.*

XI. The NECK is an important part of the spine. It reveals wasting in a child at once. Also *rigidity* of the neck in children is a very striking symptom. It may occur in *tubercular meningitis, purulent meningitis, posterior basal meningitis, cerebellar tumour, enteric fever, diphtheria, apex*

pneumonia, wasting with dyspepsia, tetany, retro-pharyngeal abscess, cervical caries, rheumatism, &c. When severe it produces retraction of the head and "*cervical opisthotonos.*"

XII. The MOUTH is now finally inspected. See the lips, gums, teeth, tongue, cavity of the mouth, palate, tonsils, and THROAT, and, if suspected, examine for *adenoids*. A host of diseases previously unthought of may be revealed in a child's mouth—*thrush, scurvy, stomatitis,* and *cancrum oris*; delayed or irregular dentition from *cretinism, rickets,* or *syphilis; retro-pharyngeal abscess;* also *follicular tonsillitis* and *diphtheria, laryngitis* and *laryngismus* may have to be differentiated.

This usually finishes the routine examination in ordinary cases, and is generally sufficient to establish a correct diagnosis, or, at least, reduce the difficulty to one of two alternatives. Thus in the passage of the hands from the head twice down and up the body, the fullest information can be quickly gathered from examination of the various organs *en route,* while the hands are never taken off the child.

XIII. Special investigation of the NERVOUS SYSTEM must, however, be afterwards conducted if any suspicion remains, or if the foregoing examination reveal any nervous troubles.

The following are the chief points, being the same for both adults and children:—

1. Motor phenomena—*e.g., spasm, paresis, paralysis*—Power of shutting eyes, whistling, laughing, grinning or frowning; power of co-ordination, threading needles, passing needle through a hole in paper, touching the nose, standing with eyes shut.
2. Reflex phenomena, especially seeking for *diphtheritic paralysis, infantile paralysis* or *neuritis.*
3. Sensory phenomena—*e.g.,* touch, pain, heat, cold.
4. Trophic phenomena, particularly regarding *pseudo-hypertrophic paralysis, juvenile muscular atrophy, birth palsies, infantile hemiplegia,* or *spastic paraplegia.*
5. Electrical phenomena.
6. Bladder phenomena; control of sphincter. *Inconti-*

nence of urine is often caused by *stone*, *phimosis*, *uric acid*, *worms*, or *organic nervous disease*.

7. Rectum phenomena, control of sphincter.
8. Mental capacity for *feeblemindedness*, *idiocy* or *imbecility*, *cretinism*, *moral insanity*, *mania*, and even *general paralysis of the insane* (of 72 cases collected under 20 years by M. Thiry, 29 were under 14 years of age).
9. Speech, for *backwardness*, *aphasia*, *nasal speech*, *stammering*, *idioglossia*, or even *dumbness*.
10. Power of sitting, standing, walking, reading, writing or singing. It is remarkable that in some cases of *cerebellar tumour* in children they can sing very well.

The nervous diseases of children form a large and interesting group, and the following must be specially held in remembrance:—

(Brain). *Tubercular meningitis*, *acute simple meningitis*, *posterior basal meningitis*, *cerebro-spinal meningitis*, *spastic paraplegia*, *birth palsies*, *infantile hemiplegia*, *hydrocephalus*, *cerebral abscess*, *cerebral* or *cerebellar tumour*, *tubercle of the brain* and *thrombosis of the sinuses*.

(Cord). *Infantile paralysis*, *Friedreich's disease*.

(Nerves). *Neuritis*, *diphtheritic paralysis*.

(Functional). *Convulsions*, *laryngismus stridulus*, *tetany*, *torticollis*, *myotonia congenita*, *chorea*, *epilepsy*, *hysteria*, *idioglossia* and *stammering*, *night terrors*, *pavor diurnus*, or *day terrors*.

(Mental). *Idiocy*, *imbecility* and *feeblemindedness*, *cretinism*, *dumbness*, *moral insanity*, *mania*, or even *general paralysis of the insane*.

Some other points in clearing up the clinical puzzles of children's diseases can be subsequently tested—*e.g.*, the *urine*, the *rectum* and *anus*, and *alvine discharges* (for *worms*, *diarrhœa*, *dysentery*, *prolapse* or *syphilis*). *Blood estimation*, the *ophthalmoscope*, *vision*, and *colour-blindness*, the *weight* to show nutrition, the *height* for stunted growth, *measurements* of the head, further investigation of the *mental capacity*, special *electrical reactions*, and the use of the

dynamometer, *æsthesiometer*, or other of the numerous psycho-physical instruments.

Every physician must choose his own method of examination; but the advantage of the above plan is, that the hands, once placed upon the child, need never be removed until the entire investigation is complete.

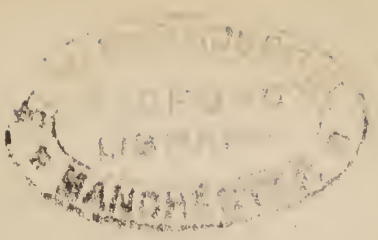
The recollection of these points as we enter the children's ward will materially assist us in our research. It is, doubtless, frequently true in the practice of medicine that we make mistakes, not because we do not know, but because we do not examine, and in the diseases of children this is eminently the case.

The medical examination of a sick child requires considerable dexterity. I do not wish to convey the idea that the examination of an adult is an easy matter. Far from it. But what I do wish to say is, that however difficult the examination of an adult may be, that of an infant is more so. Nay, more; I might say without fear of contradiction, that there is no branch of the practice of medicine in which clinical examination must be brought to such a pitch of refinement as in the diseases of children.

It forms, in my opinion, the very best, although severest, school for the clinical investigation of disease, and as a training ground for senior students it cannot be surpassed—a study as instructive in education as it is interesting in research, and useful in practice.

ATRESIA VAGINÆ.

Two cases of atresia vaginæ complicating labour are reported by Dr. Eberlin (*Zeit. f. Geburt. ū G.*). In neither of these cases had there been any disorder of menstruation, and neither was aware of the condition that existed. A membrane, sufficiently strong to impede the fœtal head, was found on examination. It was dissected off, and the wound was closed by stitches; there was brisk bleeding with it. The patients made a good recovery. ["Neale Digest," 1,099, 3—the "Index Catalogue," First Series; and Gould, "Anomalies and Curiosities of Literature," reports many such cases].



PART II.

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

Outlines of Bacteriology: a Practical Handbook for Students on the Basis of the *Précis de Microbie* (*Ouvrage couronné par la Faculté de Médecine de Paris*). By Dr. L. Thoinot, Professeur Agrégé à la Faculté, Médecin des Hôpitaux, and E. J. Masselin, Médecin Vétérinaire. Translated and adapted for English use with Additions, by Wm. St. Clair Symmers, M.B., Aberdeen; Professor of Pathology and Bacteriology, Government Medical School, Cairo; late Assistant-Bacteriologist, British (now Jenner) Institute of Preventive Medicine, London; Pathologist, Lancashire County Asylum, Prestwich; and Pathologist, General Hospital, Birmingham, &c. London: Charles Griffin & Co. 1899.

This little book belongs to the series known as "Griffin's Medical Pocket-books," and is correctly described as "elegantly bound in leather with gilt edges and rounded corners." It is likewise of convenient size for carrying about in the pocket, and would be of use to the busy student by enabling him to "make up" his subject in trains, tram-cars and the like. But other advantages over the very excellent text-books that have been coming out in such number it does not seem to possess—save, perhaps, in respect of the coloured illustrations, which are, for the most part, faithful representations of what they purport to depict, and have the advantage over micro-photographs that they give the student an exact idea of what he may expect to see under the microscope when he is being examined on stained preparations. Throughout the book there reigns an absolute neglect of the numerous and important contributions of British workers to our knowledge. The labours of men like Woodhead, Kanthack, Klein, and others that could be named, are passed over in silence, and we are treated

almost exclusively to the methods and results of the Pasteur School. What still further detracts from the value of the book is, that we do not even gather from it the existing state of opinion in that very admirable if somewhat one-sided scientific centre. We learn the state of bacteriological science in or about the year 1896, and in so rapidly progressive a branch of research three years make all the difference.

To the present reviewer it seems as though this book had no *raison d'être.* The only excuse for translating a scientific book is that it contains a presentation of its subject more modern or more perfect than can be found in the language into which it is rendered. What is to be said of a book on bacteriology that, in dealing with the typhoid bacillus, omits all reference to the work of Sidney Martin and others on its power of maintaining itself in the soil, and which never alludes to the vitally important subject of the relation of sewer-gas to the dissemination of the disease further than by saying "air seems to play no part in the dissemination of typhoid fever." Even the researches of Remlinger and Schneider which were carried out at the Pasteur Institute, and which throw such an important light on the distribution in nature of the typhoid bacillus, are not alluded to.

In connection with tuberculosis, there is no reference to the invaluable labours of the British Tuberculosis Commission, which have done so much to put our knowledge of the infectivity of meat and milk on a sound basis of observation. There is not a word about the far-reaching biological significance of the ramified forms, no explanation of the cause of the staining reaction, no mention of the fact that besides the leprosy bacillus (which is mentioned), quite a number of other forms have been found to present a like resistance to decolorisation—*e.g.*, the butter bacilli of Rabinowitsch and others, the Timothy-grass bacillus of Moeller, the Smegma bacillus. The close biological relationship between the Tubercle and the Ray Fungus is not alluded to, although fully emphasised several years back by, amongst others, Lehmann and Neumann in their Hand-Atlas, and the following is the only allusion

to Actinomyces in the book, so far as the Index and the present writer's search enable him to determine:—"The Ray-fungus (Actinomyces) is pathogenic." That is all we learn about it. It might be urged in extenuation that the consideration of the higher forms did not come within the scope of the book, and in support of this view it may at once be stated that all description of the pathogenic Moulds and Blastomycetes is omitted. As against this, we find, however, a complete article on the "Streptothrix farcinica" quite out of proportion to its importance to other than veterinary students. Furthermore, we find this same streptothrix figured on page 118, side-by-side with the glanders bacillus under the name of farcy (ox), but without one word to warn the beginner for whom the book is intended that the microbe is different *toto cælo* from the glanders bacillus, with which the ill-judged juxtaposition is certain to make him confound it. Not one line in the whole book is consecrated to the malarial parasite, and all the wonderful and most fruitful accessions to our knowledge on this most vitally-important subject to the British student are passed over in silence. To plead that the work is one on bacteriology and not on the Protozoa is no sufficient answer. Whence is the student of medicine to derive his knowledge of this all-important subject if not from his text-book of bacteriology? The French title of the book—"Traité de Microbie"—entitles us to expect that the malarial parasite shall not be omitted; though not a bacterial organism it is none the less a "microbe" in the very strictest sense of the word. Yet all mention of malaria is omitted, and what do we find instead? Full treatment with coloured illustrations of the "Virulent agent of Contagious Mammitis in Cows," of the "Spontaneous Gangrenous Mammitis of the Ewe" of "Gourme" with complete cultural details!

The same want of proportion permeates the technical part of the book. Under the head of "Anäerobic Culture Methods" we are confronted with quite a bewildering array of complicated glassware, requiring for its successful application to the purpose in hand that intimate acquaintance with blow-pipe work by which the Pasteur School have ever

been distinguished, as well as currents of hydrogen, &c. We fail, however, to find any mention of Buchner's alkaline pyrogallol method, or of the very convenient and effectual plan suggested by Novy.

There is no discussion of immunity, and no general directions for the preparation of toxins or antitoxins. Finally, the important researches of Sanarelli into the bacteriology of yellow fever are not alluded to—which is all the more remarkable in view of the fact that Sanarelli is himself a student of the Pasteur school. Neither do we find any attempt to deal with the ætiology of small-pox, or with the relation of vaccinia to that affection. Yet such a discussion might naturally be looked for in a book emanating from a fellow-countryman of the illustrious Chauveau.

Several misspellings of proper names occur with "damnable iteration" throughout the book, *e.g.*—"Pfühl," and "Büchner," and "Catacci."

To sum up. For the reasons we have mentioned we cannot congratulate Mr. Symmers on the work he has selected for presentation to the English reader. We cannot congratulate him on the way in which he has presented it, for he has omitted to bring it up to date, and the "additions" alluded to in the title fail to cover any one of the really important *lacunæ*. Had he undertaken to write an original work on the subject, he would, we have little doubt, in view of his own praiseworthy contributions to bacteriological literature, have succeeded in producing a much better one than that which he has elected to translate. As matters stand he has added to the already overburdened bacteriology book-shelf a work which only its pretty binding, gilt edges, and numerous illustrations can save from oblivion—and these not for long.

Manual of Bacteriology. By Robert Muir, M.A., M.D.; F.R.C.P. Ed.; and James Ritchie, M.A., M.D., B.Sc. Second Edition. Edinburgh and London: Young J. Pentland. 1899.

When the first edition of this valuable work appeared the year before last, we reviewed it at considerable length,

and we have since had no reason to modify the favourable impression we then expressed. It is eminently an original work. The writers have subjected the literature to a judicious process of digestion and assimilation, and have produced a book reflecting the views and the results of the British school of bacteriology, and brought fully up to date. We can cordially recommend this as one of the best, if not the very best, of bacteriological text-books in the English language.

King's College Hospital Reports, being the Annual Report of King's College Hospital and the Medical Department of King's College. Edited by NESTOR TIRARD, M.D., F.R.C.P.; W. WATSON CHEYNE, F.R.C.S., F.R.S.; JOHN PHILLIPS, M.A., M.D., F.R.C.P.; W. D. HALLIBURTON, M.D., F.R.S. Volume V. (Oct. 1st, 1897, to Sept. 30th, 1898.) London: Adlard & Son. 1899.

THE present volume of the Reports opens with an excellent article by Dr. Curnow, on "King's College." It is illustrated with photographs of Sir Wm. Fergusson and M. Patridge. This paper is followed by one on "Chronic Enlargement of the Spleen," by Dr. Dalton, in which the author takes as his text a case of enlarged spleen due to obstruction of the splenic vein, and contributes a very readable and useful paper. "Uterine Myomectomy," by Dr. Phillips, in which we are pleased to see that he advocates treating each case of fibro-myoma on its merits.

Mr. Carless warmly advocates gastrostomy for malignant disease of the œsophagus. The operation certainly has the advantage of lessening pain and prolonging life when successful.

"Some Points in Connection with Syphilis," by Captain French, who draws attention to that form of the disease known as "malignant," the account of which reads like the 1494 outbreak of the disease in Italy:—"A man is seen to have a typical hard chancre of the penis nearly healed one week, yet the next he is covered with rupia or ecthyma, and the throat is sloughing. Within a month necrosis of bone with acute suppuration has commenced."

Mr. Edward Wallis writes a very interesting account of his method of prolonging the anæsthesia of nitrous oxide. He is able, in some cases, to keep the patient anæsthetised for fifteen minutes with the nitrous oxide—quite long enough for the majority of minor operations.

Dr. Silk's report on anæsthetics follows, and is a very welcome contribution to the subject. During the year there were 712 administrations; in these ether was used throughout only 38 times, and the report states that—"The year's work points to a revival both absolute and relative in the number of chloroform administrations." A very significant statement from a London anæsthetist.

Cases of interest in the Medical and Surgical Departments are given with a sufficient fulness to make them interesting, and they, in our opinion, form the most practically useful part of the volume. They may not be such pabulum as the student seeks in his study, but they are just such helpful notes that the practical physician needs as beacon-lights in his daily rounds warning him of submerged rocks.

We commend the volume to our readers as a reference book well worthy of a place on their book-shelf, and as a trustworthy companion on all it treats of.

Dictionnaire des Termes de Médecine, français-anglais. Par H. DE MÉRIC, Membre du Collège royal des Chirurgiens d'Angleterre; Chirurgien de l'Hôpital français à Londres; Membre de la Société d'Hygiène de Paris; Membre Correspondant de la Société de Dermatologie et de Syphiligraphie de Paris, &c. London: Baillière, Tindall & Cox. 1899. Demy 8vo. Pp. 243.

IN the number of this Journal for April, 1899 (Vol. CVII., page 296), we passed a favourable judgment on the first part of this useful work—the English-French Dictionary of Medical Terms by Mr. H. de Méric, Surgeon to the French Hospital, London.

The French-English Dictionary of Medical Terms which now lies before us, is much smaller than its English-French predecessor. The author explains this by pointing out in

his French preface that it is unnecessary to assign genders to the English words, nor has he considered it necessary to repeat either the methods of treatment in medicine or the surgical operations which may be found in the first part of the work under the names of the physicians and surgeons who first practised those methods of treatment or operations.

A few French terms, which have no exact equivalent in English, have been defined by a short English phrase expressive of their meaning.

At the end of the volume will be found a table of French weights and measures with their English equivalent, as well as some prescriptions written out in full in both Latin and French.

We have again to express the opinion that Mr. de Méric has produced a meritorious and a useful work.

A Synopsis of the British Pharmacopœia, 1898. Compiled by H. WIPPELL GADD (Member of the Pharmaceutical Society). With Analytical Notes and Suggested Standards, by C. G. MOOR, M.A. Cantab., F.I.C.; Public Analyst for the City of Exeter. Fourth Edition. London: Baillière, Tindall & Cox. 1899. Pp. 223.

IN this, the fourth, edition of what is really a Pocket Pharmacopœia, it has been thought desirable to strike out the tables of the alterations, the additions, and the omissions of the British Pharmacopœia of 1898. The several changes are, however, still noted in the "Complete Table of Chemicals, Drugs, and Preparations in the British Pharmacopœia, 1898," which forms the *corpus* of this excellent little work.

The information contained in the table has been thoroughly revised, and, in addition to the official tests, analytical data, such as specific gravity, alcoholic strength and percentage of solid residue, have been given in many cases. For this information we are indebted to Mr. C. G. Moor. Appendices have also been added, in which will be found particulars relating to test solutions, analytical processes, and so on.

We have repeatedly had occasion to refer to the third

edition of Mr. Gadd's booklet, and never in vain. It is one of the most concise and, at the same time, one of the clearest commentaries on the Pharmacopœia in the market.

Twentieth Century Practice: An International Encyclopedia of Modern Medical Science by Leading Authorities of Europe and America. Edited by THOMAS L. STEDMAN, M.D., New York City. Volume XVIII. Syphilis and Leprosy. London: Sampson Low, Marston & Company, Limited. 1899. 8vo. Pp. 703.

IN some respects this is the most remarkable volume of the series of twenty large volumes which go to make up *Twentieth Century Practice.* Two diseases only occupy its seven hundred pages. Its authors are but three in number: all of them enjoy a great reputation. Jonathan Hutchinson, of London, Eduard Lang, of Vienna, and Prince A. Morrow, of New York, are names to conjure by in the bibliography of the two great pests which are described by them—syphilis and leprosy.

Our task, then, in reviewing this volume is a comparatively easy one. To attempt an exhaustive analysis of the three monographs which it contains would be well nigh impossible. The names and reputations of the authors almost forbid—at all events, disarm—criticism. The horrid fascination which hangs about the subject-matter of the volume will command the attention of myriads of readers in two hemispheres.

The first monograph is on "Acquired Syphilis," and comes from the pen of Dr. Lang, Professor of Dermatology and Syphilography in the University of Vienna. It is a well-arranged treatise, opening with a brief description of the syphilitic infection, then in turn discussing the pathology, initial lesions, and constitutional manifestations of syphilis, from beginning to end of the sad eventful history of its victims.

At page 28, under the heading "Mixed Infection," we are interested to read, "At the time when humanized lymph was used for vaccination, syphilis was occasionally conveyed by it (vaccination syphilis); but this is not seen

now that the calf lymph is almost universally employed." However true this statement as to the abandonment of arm-to-arm vaccination may be as regards the Continent, it does not so far apply to the United Kingdom, in which, nevertheless, vaccino-syphilis is one of the rarest forms of disease at the present day.

Dr. Lang's great article occupies 369 pages, and is followed by a short but scholarly account of Inherited Syphilis by Mr. Jonathan Hutchinson.

As to Dr. Morrow's fitness for the task of writing upon Leprosy, it is sufficient to state that he is Professor of Genito-urinary Diseases in the University of New York and Bellevue Medical College. He is also Attending Physician to the Department of Skin and Venereal Diseases New York Hospital, Surgeon to the City Hospital, and Consulting Dermatologist to St. Vincent's Hospital, New York.

We are not in a position from personal knowledge of the fell disease which Dr. Morrow describes to criticise his work very closely. But it seems to be uncommonly well done, and the many startling pictures with which it is illustrated bear vivid testimony to the dreadful ravages wrought by leprosy.

Dr. Stedman has, as usual, discharged his editorial duties with entire success.

The X-Ray Case-Book. By DAVID WALSH, M.D., Edin. London : Baillière, Tindall & Cox. 1899.

THE system of note headings on each page and diagrams of the body at back are carefully drawn up and executed, and contain spaces for the usual details of an X-ray examination of a patient.

It is an attempt to condense into one sheet the possibilities of such an examination in any part of the body. The diagrams of any individual part are, in consequence, too small to be of much value. Those of the limbs lack those most important outlines got from side views taken in semi-flexion of the elbow and knee.

In thoracic trouble information got from the fluorescent screen has not proved reliable, owing to the many moving

factors, and a photographic plate or print is alone the best record of aneurysm fractures or foreign bodies.

The notes on technical details of work may be of use to the expert or a beginner in the art. On the whole, "The X-Ray" Case-book is not of the practical nature expected from one whose good work in this branch of medicine is fully recognised, and who has already compiled an able text-book on "The X-Rays in Medical Work."

The Ready Reference Handbook of Diseases of the Skin. By G. T. Jackson, M.D.; Professor of Dermatology in the Women's Medical College of the New York Infirmary and the University of Vermont; Chief of Clinic and Instructor in Dermatology, College of Physicians and Surgeons, New York, &c. With 75 Illustrations. Third Edition, revised and enlarged. London, H. Kimpton. 1899. Pp. 647.

We have been favourably impressed with this book. It appears to us to give a good *résumé* of the present position of dermatology, especially from the practical point of view. Most space is devoted to the diagnosis and treatment of skin diseases; doubtful points as to pathology and ætiology are passed over briefly. The result is that Dr. Jackson has produced a book which will be found useful by many medical men. The book commences with chapters on the anatomy of the skin, on the various lesions in the skin—papules, vesicles, &c.—produced by disease, and on the classification of skin-diseases, the scheme followed here being that of Dr. Crocker.

The rest of the work consists of articles on skin-diseases, arranged alphabetically. This arrangement has the advantage that it becomes easy to look up without delay any desired disease. But, on the other hand, it has the—in our opinion more than counter-balancing—disadvantage that subjects naturally related one to another are scattered in various places through the work. Such an arrangement would render the book unsuitable for the use of students reading up dermatology, and we think that practitioners could have referred to this work with hardly less facility

had the ordinary and not the alphabetical arrangement been adopted.

The articles are good, and give a fair account of the present status of dermatology. In the present edition, new articles appear relating to dermatitis from X-rays, ecthyma globulum, pityriasis alba atrophicans, and some other skin affections. A useful feature is that prescriptions are given both in the ordinary form with drams and ounces and also according to the metric system, the two forms being arranged side by side, thus :—

Potass. carbonat. - -	ʒss.	15
Sulphur. sublimat. - -	ʒi.	30
Adipis - - -	ʒiv.	120

We think this a good arrangement and one worthy of being imitated in all prescriptions given in text-books of medicine; sometimes percentages are easier to remember than ounces and drams.

There is one feature in this work which is, to us, rather amusing—the pronunciation of the names of each skin disease is given at the commencement of the article on the disease. It is to be hoped that in this country this feature of the book will not be needed by many practitioners.

In conclusion, we can recommend the book as a good practical work on dermatology.

Introduction to the Outlines of the Principles of Differential Diagnosis, with Clinical Memoranda. By F. J. SMITH, M.D., F.R.C.P.; Physician and Senior Pathologist to the London Hospital. London: Macmillan & Co. 1899. Pp. 353.

THIS work covers a great deal of ground. It is far more than a mere work on differential diagnosis; it is rather an exposition of the fundamental principles on which all diagnosis is based. Before a diagnosis can be scientifically made not only must the group of symptoms be known which are found in a given disease, but the origin, nature, and causation of each symptom must be understood, as far as may be. Dr. Smith's work contains much information relative to such subjects as the nature of the morbid pro-

cesses which occur in the body, and the significance of the individual symptoms and physical signs which may be noted in a case of disease.

After some directions as to how notes of a case should be taken, there is a chapter entitled "On Diagnosis in General," but which really contains a brief account of general pathology. Then the various groups of diseases are considered.

We can best give an idea of the work by describing one of the chapters—say that on Diseases of the Thoracic Organs. It opens with a list of symptoms and signs met with, and the significance of each. Pyrexia in chest disease is first discussed; then the causes of cough, when useless and when useful; then the sputum as an aid to diagnosis is considered at some length; then the causes and effects of intra-thoracic pressure and of thoracic pain are mentioned; then a very good account of the physical signs to be observed about the thorax by percussion, auscultation, &c., is given; and, after some further remarks, the diagnostic points of each thoracic disease are very fully considered. The author introduces tables very frequently, so that the chief matters to which he calls attention strike the eye at once.

It will be seen that the work is no mere list of symptoms and signs intended to be learned by heart by students preparing for examination; on the contrary, it is written in a truly scientific spirit. It cannot fail to be useful to anyone who reads it, because it so clearly traces effects back to their causes. It is an admirable work for a student to read at any time during his student days, and many practitioners would be distinctly wiser men if they would carefully peruse it.

DIABETES MELLITUS.

M. Robin (*Gaz. des. Hôp.*) recommends the following intravenous injection in cases of diabetic coma: ℞—Chloride of sodium, 1 drachm; bicarbonate of sodium, 2½ drachms; distilled water, 1 quart. [In 1886 Stadelman suggested the intravenous injection of a three per cent. solution of the bicarbonate of sodium. Little success attended the treatment, and it was discontinued].

PART III.

MEDICAL MISCELLANY.

Reports, Transactions, and Scientific Intelligence.

A Notice of the Meeting of the Sanitary Institute at Southampton in September, 1899. By F. J. B. Quinlan, M.D., Dubl.; Fellow and Examiner in Hygiene, R.C.P.I.

The recent meeting of the Sanitary Institute at Southampton is important to all who take interest in the advancement of sanitary science. The total of working members who attended was 1,691, and among them were numbers of consulting and of executive sanitary officers, of public analysts, of sanitary engineers, of medical practitioners, and of others interested in questions relating to public health. The sectional and general meetings were crowded, sometimes very inconveniently so, and a tone of thorough earnestness prevailed. The general merit of the communications made was very great, and the discussions, in which so many practical experts took part, were as important and interesting as the communications themselves. A brief notice may be useful, but the present one does not make any pretence to completeness, inasmuch as the number of simultaneous sections rendered it impossible to follow more than a few subjects.

The proceedings were opened by a thoughtful Address by the President, Sir William Preece, K.C.B., in which he gave a very full review of the present progress of sanitary knowledge, and dealt with the subjects of air, water, food, soil, dwellings, and bodies. There was not much in this Address that was new, but it was pervaded throughout by an atmosphere of practical common sense and a recognition of what was practically attainable as distinguished from what was theoretically desirable. His principal new suggestions were that all large towns should have a twofold supply of water—viz., one carefully purified and filtered for drinking and domestic purposes generally, and the other unfiltered, for watering streets, for putting out fires, for flushing sewers, and for factory work, remarking that "it was wasteful to use carefully filtered

and purified water for such purposes." He might have added that in Dublin (since the access of our fine Vartry supply) breweries, distilleries, and factories have been supplied with unpurified canal water as being more economical and equally useful for their cooling and other such work. He said that Richmond and St. Helen's have already this duplicate supply. For watering the streets he advocated (where attainable) the use of sea water, which, he said, was being so used in Yarmouth and in Bournemouth. He mentioned that the use of sea water for this purpose in London would render the Thames supply quite sufficient for the next fifty years, even if the present population increase-rate were maintained. He might have mentioned that sea water is more suitable for laying dust than fresh, inasmuch as from the hygroscopic quality of some of its salts it keeps the damped surface to which it has been applied moist for a longer period than would be accomplished by fresh water sprinkling. Speaking of food he remarked that the best customer for foreign meat, butter, corn, &c., was England, adding—"The amount of farm produce imported into England from our more enlightened and progressive neighbours over the seas is enormous, and is disgraceful to our ignorant agriculturalists." I fear that in Ireland we are not free from this reproach.

Among the many sections, that of physics, chemistry, and biology, in which the subject of the best means of disposing of sewage was discussed, appeared to attract most interest. Numerous papers on every phase and aspect of this most important sanitary problem were read and discussed in the presence of overflowing audiences, and as both authors and critics were sanitary experts, both from seaside and inland districts, much valuable information was elicited. The general conclusions of this section appeared to be:—

(*a*) That the discharge of crude sewage into the sea or into tidal waters, river or marine, was undesirable where it could possibly be avoided.

(*b*) That the chemical purification of sewage by converting it into sludge and offensive effluent, and the discharge of the latter as above, was not the best plan, and should be avoided.

(*c*) That the purification of sewage by the action of the anäerobic and then of the äerobic bacteria was the plan of the future.

In Southampton both these methods are in operation in works recently constructed under the direction of Mr. W. G. B. Bennett, C.E., the borough engineer, who read before the section an admirable paper descriptive of these works, which he afterwards showed to a party of visitors, including the writer. A portion of the drainage of the borough is conducted to the sewage depot near the

floating bridge on the quay of the tidal Itchen. There it is treated with lime, and the solids are precipitated into sludge, which is placed in bags and screw-pressed into hard slabs, having a comic resemblance to oil cakes, and which find a ready sale as manure at 2s. a load. The fluid effluent, which is milky and free from floating "cobwebs" or sediment, but has an evil and Liffey-reminding smell, is collected in a tank and is let go into the Itchen at the beginning of the ebb-tide, after which it is no further heard of. The remainder of the sewage is conducted to the sewage farm at Portswood, and at this farm, which appeared about thirty statute acres in extent, it is treated either chemically or bacterially. In the former, which is limited, the sewage is treated with iron alum and put on the land, and we were shown some nice growing crops so manured. The principal method of treatment of the sewage is bacterial, and as this is a novelty it will be briefly described. The crude sewage is conducted into a vaulted brick chamber (the septic tank) sufficient in capacity to contain the ordinary inflow for 24 hours. It enters at one end of this chamber half-way down between the fluid level and the bottom, and leaves similarly at the other end, this being done for the purpose of avoiding the breaking of the thick scum which forms on the top of the sewage, the exclusion of air and of light favouring this portion of the process. The contents of this chamber move slowly from entrance to exit, and are exposed for 24 hours to the action of the anäerobic bacteria, and, as a result, the solids are almost entirely broken down and the urea and albuminous matters are converted into ammonia and then into nitrates. This disintegration of the solids is not quite as great as it would seem—much of the floating solids sink gradually to the bottom of the tank, and, after some time, sounding with a flat-topped tamper will show a deposit layer at the bottom of the septic tank. When this attains a suitable thickness there is no difficulty in pumping the tank and shovelling out this solid layer, which will form the best of manure.

Previous to the establishment of the efficient system of main drainage in the Pembroke Township I had under observation a number of the old-fashioned "cesspits" in Sandymount, and it was always a marvel to me how the large proportion of the solids which ought to have been there seemed somehow to have disappeared. The septic tank answers this question, but at that period no medical Columbus had arisen to discover the great pathological new world of bacteria. The effluent is now conducted from the septic tank into the open beds, which are four in number, for treatment by the äerobic bacteria. These beds are large, square

walled-in pits, somewhat like enormous flower-beds, and about eight feet deep; they are filled with hard, porous clinkers produced by the neighbouring rubbish destructor, which will presently be described. There was considerable discussion in the section as to the best substance for filling such beds; coal, coke, various kinds of broken stone, including pumice stone, and even broken glass were recommended. These clinkers seemed to me the best on account of their cheapness, hardness, porosity, cleanness, refractoriness, and their extent of oxidising surface. The effluent is slowly poured over the top of the clinker bed by a "Candy self-propelled, revolving, oxidising sprinkler," which sprinkles it impartially over nearly the whole upper surface of the bed, much as it might be done by a gigantic watering pot. This sprinkler consists of four radial tubes, extending north, south, east, and west, and attached to a central revolving spindle; they are perforated with holes on their rere sides, and the pressure of the liquid pouring out through these holes causes the apparatus to slowly revolve, and sprinkles every part of the bed except the corners. The bed gradually fills up to the surface, and when it has so filled an automatic apparatus closes the filled bed, and at the same time opens the next one and lets the previously filled one discharge into the final outfall. All this opening and shutting of the beds is automatic. It goes on night and day without any manual assistance, and, as a result, always one of the four beds is quite full, another is filling, a third is quite empty, and the fourth is slowly emptying its contents into the river outfall, which ends the process. In this way the clinkers are alternately exposed to the action of the sewage and to that of the air, and such alternation seems essential to the maintenance of the bacteria in a condition of healthy functional activity.

We were now conducted to the stone sill, over which the completely treated effluent was discharging itself in a thin broad stream and it was handed to us in clean glass tumblers for inspection. One enthusiast, apparently from the north of England, cautiously tried it with the point of his finger and pronounced it "free from taste," and this verdict we were content to accept without personal confirmation; but we observed the effluent was clear and free from sediment or suspended *débris*, in fact it was exactly the colour of spring water into an ordinary tumbler of which a teaspoonful of milk had been placed and stirred up. We now went into the office and were shown a large glass bowl of about five gallons capacity which had been filled with the effluent at 7 a.m. that morning. In it were swimming two gold fish apparently in perfect health and evidently quite comfortable, and we were informed that

these creatures had been living for some months in a similar medium which was changed into the bowl from the sill every day. The exact time we saw them was 4 45 p.m. The effluent from the sill entered a long open ditch (free from smell) which emptied into a salmon fishery situated in the river Itchen. This fishery is the property of Sir Samuel Montague, M.P., and I was assured that there was no complaint of injury to the fishing or to any other river interest. The depurating power of rivers has long been known, and the manner in which the sewage of Paris disappears in the Seine is a standing example of this.

I now turned to the refuse destructor, which consists of a row of furnaces somewhat on the lime kiln principle. Into the top of the furnaces are dumped house and manufacturing refuse, old metal and earthenware, some kinds of street refuse also of sludge cakes; in fact almost every kind of town rubbish. This very miscellaneous charge gradually sinks down the furnace, and midway encounters a fierce heat (stated to reach 1500° F.) which was maintained by a forced-draught, hot-air blast of great power, produced by the ordinary steam air-fan. This fierce heat destroyed every organic substance—everything, in fact, except mineral matters, which were raked out at the bottom in the form of the hard vitrified brown clinkers to which I have already alluded, the exact composition of which would be a nut for practical chemists to crack. Some of these clinkers are used for the aërobic beds and the remainder find a ready sale for concreting, roading, &c. According as the level of the rubbish at the top of the furnace sinks fresh stuff is dumped in and the process is continued uninterruptedly, for if the furnace be let cool it is apt to crack by contraction, and although lined with the best fire brick and fire clay relining is frequently necessary. The heat for the steam fan is supplied by the destructor itself, and I read on the boiler pressure-indicator a pressure of 75 pounds to the square inch. The electric light for the establishment is produced by the same heat. A tall brick draught chimney is attached to the destructor, but it causes a moderate smoke, and I could detect no smell. The rubbish on arriving from the town is thrown down into a huge penhouse, which gives free exposure to air but shelters from rain, and there it becomes drier and is not a nuisance

Portswood is a plain residential suburb, connected with Southampton by a tramway. Several residents who were present at the inspection told me that the works caused no annoyance, nor could I see any sign of such.

Some discussion took place in the section as to the most suitable heat for the bacterial sewage process. It seemed agreed that, while

70° F. was the best, it worked well at much lower temperatures. On the question of artificial heating it was urged that, in addition to the expense, a heat approaching bodily temperature was apt to develop pathogenic germs as distinguished from purifying and nitrifying ones. Much stress was laid on the enormously rapid multiplication or diminution of these germs according to the amount of organic matter presented to them for consumption. The weak point of the method seems to be that it does not affect dissolved chemical impurities of the inorganic class, great quantities of which are apt to occur in the sewage of manufacturing towns; but what system of sewage purification does so? This bacterial method was first described and put in practice about nine years ago by Professor Adeney, of the Royal University. It seems to have a great future before it, even if it be not the method of the future.

The subject of tuberculosis and of tubercular food infection received great attention—numerous papers were read bearing upon all its phases, and a general address was delivered by Mr. Malcolm Morris, in which he gave a popular summary of the present state of our knowledge of this subject. He referred to the address of Sir R. Douglas Powell to the British Medical Association at their Portsmouth meeting, but appeared inclined to go much further than that gentleman in his preventive recommendations; some of these latter, such as the compulsory slaughter (and without legal compensation) of all bovine cattle failing to answer to the tuberculin test, seemed very drastic indeed. In Ireland pleuro-pneumonia was stamped out—and amid the approval and co-operation of the agricultural interest—by the compulsory slaughter of all infected animals, combined with reasonable compensation on the part of the public, for whose ultimate benefit the thing was done. Would this process have worked as well if every compulsory slaughter meant total loss to the owner? There was no discussion on this address.

Southampton suffers from a sanitary annoyance which I have not seen elsewhere. On the western side of the town is a sea wall and promenade, several miles long and with a charming view of the New Forest, on the other side of the estuary of the river Trust, which lower down unites with the Itchen on the east of the town to form Southampton Water. The Trust estuary is miles wide, and consists of banks of mud and sand thinly covered with water, and on which grows a great abundance of a soft green plant, known locally as "sea lettuce." The south-west wind brings up vast quantities of this stuff and lodges it in broad thick banks along the western sea wall, where it is exposed to the air and sun at low

water, and would soon smell most offensively. It has to be immediately carted away, and is a source of perennial expense.

As might be expected, Southampton possesses some most interesting antiquities, over which we were shown by a local committee. The only branch of them within the scope of this memoir are the sanitary arrangements of the fortifications and of the castle. These arrangements have been simply kept in repair and not "restored"; and are in precisely the same condition that they were five hundred years ago. They present a quaint picture of mediæval habits, and are wonderfully efficient, though they can hardly have been considered as comfortable even by the hardy men of their time. For example, in the *garderobe* of the castle the *siège percée* consists of a large slab of *cut granite*, about four inches thick, with a round opening.

The Congress Museum would well deserve a separate paper, containing as it did all the newest and best sanitary and hygienic apparatus and requisites. Space, however, permits only a reference to a few features. An excellent apparatus for the heat disinfection of clothing and of bedding consisted of a steam boiler connected with a large cylindrical metal case, of the size and shape of the boiler of a locomotive. The end of this opened with binding screws, and on being opened allowed a cage vehicle containing the clothing to run in on rails; the end was now screwed on and the steam let in. The temperature to which the clothing was exposed could be regulated with great nicety by control of the steam and by inspection of the pressure gauge of the boiler: ranging from a pressure of 52 pounds on the square inch, which produces a heat of 284° F., to a pressure of 163 pounds, which exposed the clothing to a heat of 365° F. Safety valves, ordinary and of fusible metal, both on boiler and on the cylinder precluded the idea of danger. These heats could not harm the clothing, while the penetrating character of the high pressure steam ensured the destruction of all organic germs. There were some ingenious apparatus for removing obstructions from sewers either by pushing or by extraction. There were some closets and closet apparatus of great ingenuity, and one closet in which it was mechanically impossible to introduce into the sewer, through the pan, ashes, cloths, remnants of clothing, or any other of those unsuitable matters by which sewers are so often blocked in the humbler class of houses, and which so often cause expense to landlords and injury to health of tenants. There were also some very fine large scale-working models of installations for the bacterial treatment of sewage in various parts of England. In fact these models seemed even more

instructive than a visit to the original works would be, for they could be taken to pieces and their interior arrangements, including the automatic machinery, viewed. It would be diffcult to overestimate the instructive value of this museum.

SODIUM SALICYLATE IN THE TREATMENT OF DIABETES.

The use of sodium salicylate in the treatment of diabetes is not quite a novelty; in fact, its employment in the iritis of diabetics has been recommended by a number of writers. It is doubtful, however, if physicians in general look upon the drug as capable of fulfilling so many indications incident to the disease as are brought forward by Dr. Litten (*Therapie der Gegenwart*, 1899, No. 3; *Deutsche Aerzte-Zeitung*, September 15th). He prescribes a tablespoonful of a four-per-cent. solution to be taken every two or three hours, and says that larger doses are quite unnecessary. He finds that under the salicylate treatment the proportion of sugar in the urine sinks one or two per cent. almost always, but it is against a large number of the "nervous" complications that the drug is mainly useful. Especially brilliant, says Dr. Litten, is its action in allaying the itching of diabetics, and even in causing the subsidence of the weeping eczema that is apt to follow, although occasionally preparations of tar prove efficient when the salicylate has failed. In neuralgic complications, such as sciatica, intercostal neuralgia, and zoster, the drug often proves highly efficient. The author dwells particularly on the virtues of sodium salicylate in decreasing the amount of urine secreted and abating the thirst, both of which symptoms he interprets as of nervous origin. This action of the salicylate, he says, is extraordinary in many cases. He cites the case of a child that had become very much reduced in the course of pronounced diabetes mellitus. A strict meat diet had had no effect on either the excretion of sugar, the distressing pruritus, the unquenchable thirst, or the enormous flow of urine. A teaspoonful of the solution given every three hours worked like a charm in relieving the itching, the thirst, and the polyuria, while the amount of sugar in the urine fell from five to less than three per cent., and the insatiable appetite was reduced. It will be seen that Dr. Litten does not allege that sodium salicylate is to be regarded as curative of so serious a disease as diabetes mellitus, but, if his experience with it as a palliative proves to be that of most physicians who employ it in the treatment of that disease, a decided advance will have been made in the effort to prolong the lives of diabetics and to relieve them of much of their distress.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

President—Edward H. Bennett, M.D., F.R.C.S.I.

General Secretary—John B. Story, M.B., F.R.C.S.I.

SECTION OF SURGERY.

President—R. L. Swan, President of the Royal College of Surgeons in Ireland.

Sectional Secretary—John Lentaigne, F.R.C.S.I.

Friday, November 10, 1899.

The President in the Chair.

On Venereal Diseases and their Therapeutics.

The President delivered an address on this subject. [It was published in Vol. CVIII. of this Journal, December, 1899, page 401.]

On the Treatment of Fractured Patella by an Improved Method.

Mr. Glasgow Patteson read a paper on suture of fractured patella by an improved method. He recommended the use of a strong silver D-shaped wire, which necessitated only a single drilling of the bone, and was sufficiently strong to allow of very early passive motion of the joint being effected without risk to the injured fragments. This was an important factor in early and complete restoration of the function of the limb.

Mr. Henry Gray Croly was opposed to the risk of opening the knee-joint. He thought ligamentous union just as good. When last in London he had inquired if there had been any deaths from the opening of the joint in fracture of the patella, and found there had been.

Dr. Ormsby had seen many cases treated by the Dublin method with a short ligamentous band, and frequently, when the patient was afterwards walking about, people could not say which patella was broken. The advantages of bony union did not appear to him so great as those of a short ligamentous band.

Mr. Patteson, in reply, said he had never seen death follow the modern method of treatment, which, of course, should be used only in suitable cases. By the open method bony union and absolute mobility are made certain within a short time. He felt more and

more convinced that, with proper precautions, the opening of the joint is the best method.

On Urinary Infiltration.

Mr. H. Gray Croly read a paper on urinary infiltration, illustrated by a series of cases which came under his care in his hospital and private practice. Mr. Croly exhibited six beautiful coloured drawings taken from the patients by Dr. Paul Carton. Some were made in the theatre before operation, others at a later period during the healing process, and some when the wounds were healed. Mr. Croly made important reference to the surgical anatomy of the region involved in cases of infiltration of urine, including a description of the attachments of Colles' middle femoral fascia. All the cases described were very severe. Only one fatal case occurred in Mr. Croly's list—in that case the patient delayed seeking admission to hospital until the local and constitutional symptoms were far advanced. Mr. Croly said he had never seen in any surgical work a drawing of urinary infiltration. The drawings were examined with much interest by the President, Fellows, and Members of the Society, and the communication elicited an interesting discussion. In conclusion Mr. Croly described gangrenous erysipelas of the scrotum as an affection which might be mistaken for infiltration of urine, and differentiated the cases.

Mr. R. B. M'Causland asked if Mr. Croly thought incision of the testicle in these cases would be dangerous. He thought it remarkable that so many patients recover from injuries of this kind.

Dr. E. H. Bennett had seen a case where a man was "butted" in the belly, and injury to the bladder was supposed to have resulted. A catheter was passed, and bloody urine drawn off, but the patient objected to the passing of the instrument, and afterwards passed water for himself. He lived for nearly two months, and died, not with urinary symptoms, but of obstruction to the rectum. At the *post-mortem* urinary extravasation into the pelvis was found, although there were no external phenomena to indicate this.

Mr. Doyle had seen extravasation of urine in a boy four years old who had fallen out of bed, causing injury to the perineum. He had obtained a satisfactory result by the usual incisions. He did not see how a difficulty could arise in the diagnosis.

Dr. Knott said a large majority of strictures occur immediately in front of the triangular ligament, and the great trouble in treatment is that injections and instruments are generally stopped here by the ligament.

Mr. Croly, replying to Mr. M'Causland, said he did not think incision would be dangerous if it did not go through the tunica albuginea. The diagnosis should present no difficulty, except where infiltration occurs behind the triangular ligament, but he had already mentioned a case of urinary extravasation in which the man's scrotum was tapped with a trocar and cannula. The most deceptive cases are those in which abscess of the perineum exists.

The Section then adjourned.

SECTION OF OBSTETRICS.

President—A. V. Macan, M.B.

Sectional Secretary—John H. Glenn, M.D.

Friday, November 24, 1899.

The President in the Chair.

Exhibits.

Dr. Purefoy exhibited five myomatous uteri removed by abdominal section recently in the Rotunda Hospital.

Dr. Kidd exhibited a myomatous uterus removed by abdominal section.

Dr. Alfred Smith exhibited seven fibro-myomatous uteri removed by retro-peritoneal hysterectomy. One of the specimens was taken from a lady who had been acting as nurse at Johannesburg. Double salpingo-oophorectomy had been performed there in the hope that the hæmorrhage would be arrested. When she came to him at St. Vincent's Hospital she was a wreck from continued loss of blood. Removal of the uterus was the only available course. The operation was attended with more than ordinary difficulty owing to the fact that bad adhesions had formed. The interest in the case was that the tumour, which was a small one, bled so much, and that complete ablation of the ovaries had failed to arrest the hæmorrhage. The temperature and pulse were normal on the fourth day after his operation.

Dr. Glenn's Specimen—Excision of Coccyx for Dislocation Causing Severe Coccygodynia of Many Years' Standing.

Dr. Kidd had had three such cases. He was led to believe by the text-books that granulation would occur after the operation, and that he could not expect primary union to take place. In one of his cases union was so complete that the cicatrix could not be seen. In two of the cases the pain was completely relieved.

Dr. Knott asked if there was any explanation of the false crepitus.

Dr. Purefoy inquired if the patient was cured of the pain she had suffered.

Dr. Glenn, in reply, said he now thought the crepitus was a true crepitus, due to the rubbing together of the ends of the bone. It was only three weeks since the operation, and the pain had diminished, but had not completely disappeared.

Observations on a Successful Case of Cæsarean Section.

Dr. G. Cole-Baker read a paper on a case of Cæsarean section, in which he performed this operation successfully, in August last, on a woman parturient for the eleventh time. He believes that in this fact his case is unique, though Murdoch Cameron (Glasgow) has performed it on a nono-para, whose eight previous pregnancies had been terminated by craniotomy.

The history of the ten previous labours in Dr. Cole-Baker's case is somewhat remarkable. The 1st, 4th, and 5th were terminated by forceps. Result to the child:—1st stillborn, 5th died in 4 hours, 4th alive, and now 11 years old. At the 2nd and 10th labours, forceps having failed, version was performed, but in both cases the after-coming head was extracted only by perforation and craniotomy. The 3rd, 6th, 7th, 8th and 9th labours terminated naturally, resulting as follows:—In the 3rd and 8th the children were alive, and are still living; the 6th was stillborn, while the 7th and 9th both died a few minutes after birth. Aware that the woman had had living children, Dr. Cole-Baker allowed his patient to remain in labour for 40 hours before he interfered, in the hope that the head might mould and the child be extracted. At the end of this time, however, as the mother's pulse and temperature were rising, the lower uterine segment thinning out, and the contraction ring becoming marked, the fœtal heart sounds increasing in frequency, with a "caput" commencing to form without any symptoms of moulding, Dr. Cole-Baker asked Dr. W. J. Smyly (ex-Master of the Rotunda Lying-in Hospital) to see the case with him, and they mutually agreed that the choice lay between Cæsarean section and craniotomy. Dr. Cole-Baker chose the former. In describing the actual operation Dr. Cole-Baker states that he incised the uterus (longitudinally, and commencing as near the fundus as possible) while still in the abdominal cavity, and extracted the child by the feet. The incision was through the placental site, and hæmorrhage very free for a few seconds, but was completely controlled by Dr. Smyly, who slipped both his hands down on to the cervix the moment the emptying of the

uterus permitted of its being lifted out through the abdominal incision. The uterine wound, which was 6 inches long, was begun with a scalpel and completed with scissors, and from the time of its commencement till the child was extracted was not more than 90 seconds. The wound in the uterus was closed with interrupted silk-worm gut sutures passed down to but not including the decidua. The patient made a good recovery, was up on the 28th day after the operation, having nursed her infant from the second day after her delivery. Later Dr. Cole-Baker measured the patient's true conjugate with Skutsch's pelvimeter, and found it to be 6 centimetres only. It is difficult to understand how a woman with such a limited conjugate can have brought forth living children *per vias naturales*, except on the assumption that she did not go to "term" on these occasions and that the children were small. The child Dr. Cole-Baker extracted was a female weighing 9lbs. Dr. Cole-Baker does not approve craniotomy if the child be ascertained to be alive, and believes it to be no whit less dangerous for the mother than Cæsarean section in either immediate or ultimate consequences, while the child is sacrificed. Jardine (Glasgow) agrees with him. Dr. Cole-Baker did not think the child could have been delivered alive in his case by the performance of symphysiotomy, and, even so, prefers Cæsarean section to that operation. In favour of his opinion he quotes Charles, Washburn (Boston), and Everke (*Wien. med. Woch.*, No. 51, 1898). Charles (in L'Obstetrique) says—"Symphysiotomy is *not* less dangerous, as is commonly supposed, than Cæsarean section." Everke calls the suture of the uterine wound the "essential" feature of the operation. Dr. Cole-Baker agrees with him, and advocates three sets of sutures—fine silk (interrupted) for the decidua and submucosa taken together, strong silk (interrupted) for the muscular coat taken alone, and a continuous fine cat-gut suture for the peritoneum, inserted so as to cover in completely all the silk sutures in the muscular coat. This is practically the method of Lebedeff and J. Veit, and, in Dr. Cole-Baker's opinion, minimises friction due to respiration between anterior uterine and parietal or visceral peritoneum, thereby lessening possibilities of adhesion. He also advocates Marcey's manœuvre of drawing down the omentum over the incision as a good one—for adhesion of the uterus to the omentum would not be so undesirable, in the light of a subsequent pregnancy, as one of the uterus either to the abdominal wall or to intestine. Dr. Cole-Baker thinks Schultze's method of artificial respiration the best for new born infants, and has never had any bad results, even after employing the method for upwards of two hours.

Dr. Kidd said the case he had reported differed in many respects from Dr. Cole-Baker's. His (Dr. Kidd's) operation was performed in a condition where labour was obstructed by a tumour which filled the lower part of the pelvis, while Dr. Baker had operated for deformity of the conjugate diameter. It was a common misfortune to come down on the placenta, and, of course, if the operator, in his hurry to gain entrance, incised the placenta, it added to the danger of losing the mother and child. The question of putting ligatures through the mucous membrane of the uterus was important. Where a local discharge, which had become septic, afterwards occurred, he thought the passage of these sutures into the cavity of the uterus would be an indirect means to allow this discharge to get between the walls.

The President said that where there had been a long labour the danger of Cæsarean section was very great—in fact, the operation was at times almost contra-indicated. Symphysiotomy was still permissible long after the period for Cæsarean section had gone by. Dr. Baker was to be congratulated on having such a successful result after a twenty-four hours' labour. He looked on the elastic ligature as the great cause of asphyxia. With regard to suturing the uterus, he would use ordinary boiled silk, and rather than lose two seconds over the operation, would include the mucous membrane.

Dr. Baker, in reply, said he failed to see that the suture tracks passing through the decidua could in any way conduce more to absorption from the uterus than in the case of any other mucous membrane. The asphyxia of the child was not due to pressure, as none was applied, either with the elastic ligature or by the assistant, until the child had been removed.

The President then read his address on "The Significance of Pain in Gynæcology."

The Section then adjourned.

SECTION OF PATHOLOGY.

President—Professor A. C. O'Sullivan, M.D.

Sectional Secretary—E. J. McWeeney, M.D.

Friday, December 1, 1899.

The President in the Chair.

Suicidal Wound of Throat which severed the Right Common Carotid Artery and Pneumogastric Nerve, causing immediate death.

Mr. Henry Gray Croly furnished the following notes on above case :—J. H., aged thirty-four years, was admitted into the City of

Dublin Hospital on September 1st, 1899, suffering from a hard fungating growth projecting through the orifice of the prepuce. The patient evidently had a natural phimosis. The glands in the groin were much enlarged. No direct history of syphilis could be obtained. The patient was sent to me as a probable case of epithelioma. The prepuce was slit and the foreskin removed, and the growth shaved off the glans penis. Mercury, with iodide of potassium, was administered. The glands in the groin got much smaller, and were subsequently excised. The patient, though dissatisfied at the slowness of his case, never showed any suicidal symptoms. On the 4th of November the man asked permission to go into the lavatory, and objected to the bed-pan. He went to the bathroom after his dinner, locked and bolted the door, and was found lying dead, with a razor in his right hand. The floor was covered with arterial blood. On examination the right carotid was found divided, and its ends retracted about $1\frac{1}{2}$ inches. The right pneumogastric nerve was also severed, and the cartilages of the larynx severed in more than one place. The penis was removed *post-mortem*, and on section was found to be normal.

Varicose Aneurysm.

Dr. R. Charles B. Maunsell showed a varicose aneurysm which he had excised from the right forearm of a man, aged forty-two, who had received a punctured wound, from a broken bottle, over the line of the radial artery about two inches above the wrist joint. Pulsation and a sharp thrill and buzzing sound were well marked before removal. The aneurysm had grown to the size of a walnut in a fortnight.

Exhibits.

Mr. M'Ardle demonstrated the case of a boy with a peculiar form of ectopia vesicæ (artificial marsupialisation); bones of forearm from a case of compound fracture, and a collection of vesical calculi.

Papers.

The President (Professor A. C. O'Sullivan) gave an address on the mode of action and production of Antitoxin.

Malformation of Kidney.

Dr. Earl demonstrated this specimen and read a paper, of

which the following is an abstract:—The right kidney and both suprarenal capsules were normal as to position and vascular supply. The left kidney lay on the brim of the pelvis; it was tightly held down by the peritoneum, and partly covered by the sigmoid flexure of the colon. It is somewhat smaller than the right, convex on its anterior surface, slightly concave on its posterior surface. The inner margin is more curved than the outer. The left ureter is $5\frac{1}{2}$ inches long, that on the right side being $10\frac{1}{2}$ inches. The hilum is on the anterior surface. It consists of a deep depression near the lower end of the kidney, which is continued upwards into two shallow depressions about $\frac{1}{2}$ an inch apart, lying parallel to each other and to the long axis of the organ. Each of these is about 2 inches long. The ureter divides near the kidney into two branches, one of which enters at the lower part of the hilum, while the other again divides into branches for its longitudinal parts. The artery comes off half an inch above the bifurcation of the aorta, and divides into three branches, two of which enter the kidney at its inner margin near the upper end, while the third runs behind the kidney, giving a branch to its posterior surface. It finally turns round the outer border, and, grooving the anterior surface, terminates in the lower part of the hilum. The vein enters the vena cava in the normal position. A little above the kidney it divides into two branches, which lie in grooves on the anterior surface, and having given branches to the longitudinal parts of the hilum, terminate in its lower part.

Recent Investigations in the Bacteriology of Beri-beri.

Dr. Percy Gerrard's paper on this subject was communicated by Dr. A. R. Parsons.

The President (Dr. A. C. O'Sullivan) said that Dr. Gerrard had gone into the subject with great care and thoroughness. He did not see, however, why, if an attack of erysipelas would cure sarcoma, the streptococcus would not cure beri-beri without a specific action.

Dr. J. A. Scott said that during the epidemic of 1894 in the Richmond Asylum, Dublin, he made, with Dr. Rambaut, some investigations into the condition of the blood in this disease. A number of attempted cultures remained absolutely sterile. In other cases, however, colonies grew, and these were subsequently separated. In the memorandum he had made then he found notes of the *Bacillus subtilis*, *Bacillus roseus*, *Penicillium glaucum*, and the like, which obviously indicated air contamination; but there

were also colonies of cocci formed, which had a yellow colour when grown on any medium. Some of these suggested to him the Sarcina lutea, but other cultures he believed were not those of ordinary air cocci. In his notes he had the words "diplococcus" and (?) "tetrad," so that the general arrangement of these cocci occasionally suggested to him some form of tetracoccus. Some of the patients he observed were always sure finds as regards cultures, whereas other cases, equally as bad, were always sterile.

Dr. E. J. McWeeney said that the amount of material Dr. Gerrard had operated on, a loopful of blood, was so small that, if the cocci had really been in the blood, it seemed to him that there ought to have been no great difficulty in demonstrating them microscopically. There was a paucity of detail regarding the cultural characteristics of the micro-organisms found. For instance, there were no details about the temperature at which they would grow, whether they liquefy gelatine, about their growth on media containing glucose, their fermentative power, their coagulation of milk, particulars which were of importance in determining the species of a micro-organism. With regard to the improvement of the patients under anti-streptococcus serum being co-ordinated with a growth of a yellow colour obtained from the blood, he thought there could be no connection, because the streptococcus did not produce a yellow colour. The injection of the serum, however, might have produced, as the President had hinted, a general phagocytosis of a non-specific character, but that state of affairs could not denote any connection between streptococci and beri-beri. There was such an extreme difficulty in sterilising the skin that in his own work he would pay no attention to a result got from a drop of blood that had been in contact with the skin. The method he employed successfully was to extract several c.cs. of blood from one of the veins in the arm with a sterilised hypodermic or anti-toxin syringe. So few were the micro-organisms in even violent septicæmia that unless they extracted a good deal of blood they would not find any micro-organisms at all. It was with these precautions that he had succeeded in getting the Diplococcus pneumoniæ in a case of ulcerative endocarditis coming on after acute pneumonia.

Dr. Conolly Norman, referring to the micro-organisms described by Pekelharing and Winckler, said that they found them in every patient's blood; but they also found them in the blood of persons in Atjeh who had not beri-beri, and similar cocci were also found in the air of that place. Dr. Norman showed illustrations of cocci found by other observers which were very dissimilar

to those of Pekelharing, but he (Dr. Norman) pointed out that these cocci were obtained from the dead body, and he, therefore, considered them of little value. Pekelharing's and Winckler's results were disputed by other investigators, amongst whom was Scheube, who said that their observations were made on dirt, and that most of the animals which they had injected experimentally had died of septic poisoning. Glogner found parasites in the spleen resembling those of malaria, and on that fact had founded his theory, which had got a few adherents, that beri-beri was identical with malaria. At Tuscaloosa, in the State of Alabama, cocci were found in the blood of beri-beri patients, but they were not described in detail. One of the peculiarities of the disease which Dr. Gerrard had remarked, and which he also had noticed, was that patients frequently got relapses, and often died rather suddenly after apparently getting quite well. In a recent monograph on the subject Grimm laid it down that beri-beri always commenced with slight initial fever.

Dr. Knott pointed out that Dr. Gerrard's cases commenced with fever and diarrhœa, and that one of his cases was engaged in mining operations. He remembered reading some years ago the theory that beri-beri was produced by the same parasite as produced Egyptian chlorosis.

Dr. Parsons, in reply, said that most of the points which had been raised had been already touched upon by Dr. Gerrard in his paper, which, however, he had not had time to read in full. Bearing in mind Dr. Scott's notes, it was interesting to observe that several of Dr. Gerrard's cover-glass preparations had shown distinctly diplococci, and in many cases tetra-cocci. Most of Dr. Gerrard's patients were miners, and this seemed to point to the poison being in the earth. In a few cases the Ankylostomum duodenale was found.

Primary Sarcoma of the Lip.

Dr. R. Charles B. Maunsell read notes of a case of a married lady, aged thirty-two, from whose lower lip he had removed a small prominent tumour. She was suffering at the same time from well-marked chloasma uterinum. On examination the tumour was found to be a spindle-celled sarcoma. Dr. Maunsell drew attention to the rarity of sarcoma of the lip, and stated that so far he could find no reference to it in English works, but he had found a short notice of two cases by Widal and Luttegast in "Duplay and Reclus' Surgery." Dr. Maunsell showed sections prepared by Dr. H. C. Earl.

The PRESIDENT (Dr. A. C. O'Sullivan) inquired if he was right in taking it that the tumour was not pigmented.

DR. E. J. MCWEENEY said that about a week ago a specimen was given to him in hospital from the lower lip of a child, aged ten years. The portion bore a growth, slightly ulcerated, about the size of a pea, roundish in outline, and suspected by the surgeon who had removed it to be a sarcoma. On section it proved to be a mixture of sarcomatous tissue, with dilated lymphatics and a considerable number of minute newly-formed capillaries. He reported it as being a lymphangio-sarcoma.

DR. MAUNSELL, in reply, said that the tumour was not pigmented.

The Section then adjourned.

SECTION OF MEDICINE.

President—J. W. MOORE, M.D., Univ. Dubl., President of the Royal College of Physicians of Ireland.

Sectional Secretary—R. TRAVERS SMITH, M.D., Univ. Dubl.

Friday, December 15, 1899.

The PRESIDENT in the Chair.

Pseudo-hypertrophic Muscular Dystrophy.

DR. J. LUMSDEN exhibited a case of this disease.

SIR CHRISTOPHER NIXON, DR. LANGFORD SYMES, and DR. KNOTT joined in a discussion.

The Pulmonary Second-sound.

DR. O'CARROLL read a paper on this subject, and dealt chiefly with the significance of accentuation of the second-sound in the pulmonary area. (To be published later.)

SIR CHRISTOPHER NIXON, the PRESIDENT, and DR. KNOTT discussed the paper.

The Examination of Sick Children.

DR. LANGFORD SYMES read a paper on this subject. [It will be found on page 28.]

DR. KNOTT referred to the rheumatic nature of growing pains in young children.

DR. DOYLE said that very often in examining sick children it was necessary to resort to an anæsthetic, as he experienced in a recent case of his of hæmorrhage from the bowel. On making a

rectal examination under chloroform he discovered a polypus, which was subsequently removed. One of the first things he would look to was the condition of the mouth and pharynx and all the openings of the body. The possibility of feigned disease should always be borne in mind.

Dr. O'Carroll said that, as the previous speaker had hinted, the complaints of children might in many cases be due to the suggestive influence of the parent. Children were also quite as liable to hysteria as adults. He did not consider reflexes of much value in examining children under two or three years of age, as the lateral tract was then ill-developed. He emphasised how important it was for a young practitioner to know the times of temporary and permanent dentition.

The President (Dr. J. W. Moore) said that it was necessary to gain the confidence of the child before laying a finger on it. He was, therefore, inclined to criticise the recommendation about undressing the child in an out-patient department.

Dr. Symes, in reply, alluded to the lack of teaching in diseases of children in Ireland. Now that distinct sections in our Associations, separate hospitals, professors and lecturers, exist in England, the Continent, and America, the subject should no longer be neglected. The frequency of disease, its high mortality, the strangely different diseases which are peculiar to children, and, above all, the advantage of the study as a training ground for senior students, combine to strongly recommend it as a most profitable course for the fifth year.

The Section then adjourned.

APPENDICITIS.

Of 1,400 cases of appendicitis collected by Dr. J. F. Mitchell (*Johns Hopkins H. M. R.*), only 7 per cent. were found to be associated with foreign bodies—shot, pins, worms, gall-stones, a tooth, a piece of bone, a grape pip, and soforth. [H. Drummond, the eccentric and brilliant politician, is said to have died of appendicitis excited by the presence of a cherry stone. In 1860, the year of his death, all concretions found in the appendix were looked on as cherry stones].

SANITARY AND METEOROLOGICAL NOTES.

Compiled by J. W. Moore, B.A., M.D. Univ. Dubl.;
P.R.C.P.I.; F. R. Met. Soc.;
Diplomate in State Medicine and ex-Sch. Trin. Coll. Dubl.

Vital Statistics

For four Weeks ending Saturday, December 2, 1899.

The deaths registered in each of the four weeks in the twenty-three principal Town Districts of Ireland, alphabetically arranged, corresponded to the following annual rates per 1,000 :—

Towns, &c.	Week ending				Average Rate for 4 weeks	Towns, &c.	Week ending				Average Rate for 4 weeks
	Nov. 11	Nov. 18	Nov. 25	Dec. 2			Nov. 11	Nov. 18	Nov. 25	Dec. 2	
23 Town Districts	23·9	27·5	24·6	24·9	25·2	Limerick -	18·2	14·0	15·4	16·8	16·1
Armagh -	7·1	7·1	35·6	14·3	16·0	Lisburn -	25·7	8·5	17·0	12·8	16·0
Ballymena	11·3	5·6	28·2	16·9	15·5	Londonderry	14·1	47·1	22·0	7·9	22·8
Belfast -	18·9	26·2	20·4	17·6	20·8	Lurgan -	18·2	9·1	18·2	36·5	20·5
Carrickfergus	11·7	5·8	11·7	35·1	16·1	Newry -	20·1	16·1	28·2	12·1	19·1
Clonmel -	4·9	9·7	19·5	14·6	12·2	Newtownards	17·0	34·0	5·7	17·0	18·4
Cork -	20·8	25·6	24·9	23·5	23·7	Portadown -	18·6	18·6	12·4	0·0	12·4
Drogheda -	19·0	7·6	3·8	34·2	16·2	Queenstown	34·4	17·2	5·7	28·7	21·5
Dublin - (Reg. Area)	35·5	36·2	32·1	37·0	35·2	Sligo -	15·2	5·1	5·1	30·5	14·0
Dundalk -	4·2	16·8	25·1	16·8	15·7	Tralee -	11·2	0·0	28·0	16·8	14·0
Galway -	3·8	15·1	26·4	26·4	17·9	Waterford -	17·9	21·9	33·8	15·9	22·4
Kilkenny -	28·3	37·8	42·5	37·8	36·6	Wexford -	22·6	18·1	13·5	18·1	18·1

In the week ending Saturday, December 2, 1899, the mortality in thirty-three large English towns, including London (in which the rate was 19·4), was equal to an average annual death-rate of 18·9 per 1,000 persons living. The average rate for eight principal towns of Scotland was 20·5 per 1,000. In Glasgow the rate was 21·0. In Edinburgh it was 18·8.

The average annual death-rate represented by the deaths registered during the same week in the Dublin Registration Area and in the twenty-two principal provincial Urban Districts of Ireland was 24·9 per 1,000 of their aggregate population, which, for the purpose of this return, is estimated at 1,053,188.

The deaths from the principal zymotic diseases in the twenty-three districts were equal to an annual rate of 3·5 per 1,000, the rates varying from 0·0 in thirteen of the districts to 13·7 in Lurgan—the 8 deaths from all causes registered in that district comprising 2 from whooping-cough and one from diarrhœa. Among the 118 deaths from all causes registered in Belfast are 4 from whooping-cough, 2 from diphtheria, and 5 from enteric fever. The 9 deaths in Drogheda comprise 2 from measles.

In the Dublin Registration Area the births registered during the week ending December 2 amounted to 154—78 boys and 76 girls; and the deaths to 259—120 males and 139 females.

The deaths, which are 76 over the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 38·6 in every 1,000 of the population. Omitting the deaths (numbering 11) of persons admitted into public institutions from localities outside the area, the rate was 37·0 per 1,000. During the forty-eight weeks ending with Saturday, December 2, the death-rate averaged 30·0, and was 3·4 over the mean rate for the corresponding portions of the ten years 1889–1898.

The number of deaths from zymotic diseases registered during the week was 46, being 26 over the average for the corresponding week of the last ten years, but 3 under the number for the week ended November 25, and 32 under that for the week ended November 18. The 46 deaths consist of 29 from measles—being 9 under the number from that disease registered in the preceding week, and 22 under the number for the week ended November 18—2 from scarlet fever (scarlatina), one from influenza, one from whooping-cough, 2 from diphtheria, 6 from enteric fever, 4 from diarrhœa, and one from erysipelas.

The decline in the number of cases of measles admitted to hospital, which was noted in the returns for the weeks ended November 18 and 25 respectively, did not continue, the admissions amounting to 58, against 41 for the preceding week and 51 for the week ended November 18. Forty-one measles patients were discharged during the week, 10 died, and 164 remained under treatment on Saturday, December 2, being 7 over the number in hospital at the close of the preceding week.

Twenty-six cases of scarlatina were admitted to hospital, against 15 admissions in the preceding week and 19 in the week ended November 18. Eighteen patients were discharged this week, 3 died, and 85 remained under treatment on Saturday, December 2, being 5 over the number in hospital on that day week. This number does not include 18 convalescents still under treatment at Beneavin, the Convalescent Home of Cork-street Hospital.

The number of cases of enteric fever admitted to hospital was 23, being 9 under the admissions for the preceding week, and 6 under the number for the week ended November 18. Thirty-eight patients were discharged, 4 died, and 177 remained under treatment on Saturday, being 19 under the number in hospital at the close of the preceding week, and 144 under that for Saturday, 14th October, since which date there has been each week a decline in the number of cases of this disease in hospital.

The hospital admissions for the week included, also, 4 cases of diphtheria—8 cases of this disease remained under treatment in hospital on Saturday.

The deaths from diseases of the respiratory system registered amount to 66, being 20 in excess of the average for the corresponding week of the last ten years, and 15 over the number for the week ended November 25. They comprise 45 from bronchitis and 17 from pneumonia.

Meteorology.

Abstract of Observations made in the City of Dublin, Lat. 53° 20′ N., Long. 6° 15′ W., for the Month of November, 1899.

Mean Height of Barometer, - - -	30·044 inches.
Maximal Height of Barometer (on 17th, at 9 a.m.),	30·697 „
Minimal Height of Barometer (on 3rd, at 11 a.m.),	28·784 „
Mean Dry-bulb Temperature, - -	49·6°.
Mean Wet-bulb Temperature, - -	47·1°.
Mean Dew-point Temperature, - - -	44·4°.
Mean Elastic Force (Tension) of Aqueous Vapour,	·293 inch.
Mean Humidity, - - - -	82·9 per cent.
Highest Temperature in Shade (on 4th), -	64·9°.
Lowest Temperature in Shade (on 19th), -	38·1°.
Lowest Temperature on Grass (Radiation) (on 19th) - - - - -	31·6°.
Mean Amount of Cloud, - - -	67·9 per cent.
Rainfall (on 13 days), - - -	1·964 inches.
Greatest Daily Rainfall (on 3rd), - -	·389 inch.
General Directions of Wind, - - -	S.W., W.

Remarks.

A record month for warmth—the mean temperature having been 50·7°, compared with 50·3° in November, 1881, and an average of 44·7°. The first half of the month was very stormy, wet and generally unsettled. An anticyclonic, or high pressure system, held with but slight interruptions from the 12th. November was actually warmer by 0·8° than October, the mean dry-bulb temperature at 9 a.m and 9 p.m. showing an excess of 1·1° as compared with the previous month. At 11 a.m. of the 3rd a very tempest of wind and rain swept over Dublin from S.W., doing much damage to trees and buildings. The sky was particularly cloudy, especially in the mornings. In London, and over the S. and S.E. of England generally, unusually heavy rains fell during the first ten days.

In Dublin the arithmetical mean temperature (50·7°) was decidedly above the average (44·7°) ; the mean dry-bulb readings at 9 a.m. and 9 p.m. were 49·6°. In the thirty-four years ending with 1898, November was coldest in 1878 (M. T.=38·2°), and in 1870 (M. T.=42·2°); warmest in 1881 (M. T.=50·3°). In 1898 the M. T. was 46·2°. The present month, therefore, establishes a record for high mean temperature.

The mean height of the barometer was 30·044 inches, or 0·184 inch above the corrected average value for November—namely, 29·860 inches. The mercury rose to 30·697 inches at 9 a.m. of the 17th, and fell to 28·784 inches at 11 a.m. of the 3rd. The observed range of atmospheric pressure was, therefore, 1·913 inches.

The mean temperature deduced from daily readings of the dry-bulb thermometer at 9 a.m. and 9 p.m. was 49·6°, or actually 1·1° above the value for October, 1899. The arithmetical mean of the maximal and minimal readings was 50·7°, compared with a twenty-five years' average of 44·7°. On the 4th the thermometer in the screen rose to 64·9°—wind, S.S.E. to W.S.W.; on the 19th the temperature fell to 38·1°—wind, W.S.W. The minimum on the grass was 31·6°, also on the 19th.

The rainfall was 1·964 inches, on 13 days—the rainfall and the rainy days were decidedly below the average. The average rainfall for November in the twenty-five years, 1865–89 inclusive, was 2·452 inches, and the average number of rainy days was 17·0. In 1888, 6·459 inches fell on 26 days. On the other hand, the rainfall in 1896 was only ·664 inch on 9 days. In 1898, 4·435 inches fell on 17 days.

High winds were noted on 16 days, and attained the force of a gale on 7 days—the 3rd, 4th, 7th, 8th, 9th, 10th and 11th. The

atmosphere was more or less foggy in Dublin on the 17th, 18th, and 30th. A lunar halo was seen on the 11th. Hail fell on the 8th and 11th. Lightning was seen on the 7th, 8th, 9th, and 14th.

The rainfall in Dublin during the eleven months ending November 30th amounted to 24·450 inches on 162 days, compared with 15·378 inches on 141 days during the same period in 1887, 27·503 inches on 193 days in 1897, 25·982 inches on 173 days in 1898, and a twenty-five years' average of 25·292 inches on 177·4 days.

At Knockdolian, Greystones, Co. Wicklow, the rainfall in November was 2·870 inches on 12 days. Of this quantity ·560 inch fell on the 7th. From January 1, 1899, up to November 30, rain fell at that station on 162 days, and to the total amount of 32·870 inches. The corresponding figures for 1897 were 38·185 inches on 188 days, and for 1898, 28·786 inches on 156 days.

At Cloneevin, Killiney, Co. Dublin, 2·99 inches of rain fell on 11 days, compared with a fourteen years' average of 2·920 inches on 17·0 days. The maximal fall in 24 hours was ·77 inch on the 7th. Since January 1, 1899, 27·98 inches of rain have fallen at this station on 162 days. The corresponding figures for 1897 were 28·64 inches on 184 days, and for 1898, 26·77 inches on 173 days.

At the National Hospital for Consumption, Newcastle, Co. Wicklow, the rainfall in November was 3·189 inches on 12 days. The maximal fall in 24 hours was ·696 inch on the 7th. Since January 1, 1899, the rainfall at Newcastle has amounted to 30·832 inches on 152 days. The corresponding figures for 1898 were 31·197 inches on 157 days. On November 28th the screened thermometers at the National Hospital rose to 59·0°, on the 4th they fell to 39·8°.

At Recess, Co. Galway, the rainfall was 5·074 inches on 23 days, ·771 inch being measured on the 6th. There was a brief thunderstorm on the 8th.

MENOPAUSE.

Dr. Glass (*Medical News*), for the relief of premature menopause, successfully transplanted a human ovary. Six days after the operation the patient experienced a condition of sexual erethism, which remained for several days. From this time she has continued to have a positive sexual appetite, and sixteen days after the transplantation menstruation occurred, lasting two full days, and she has menstruated irregularly since.

PERISCOPE.

TYPHOID FEVER AND COCKLES.

An outbreak of typhoid fever which has recently occurred in Shoeburyness is attributed by Dr. Thresh, the County Medical Officer of Health for Essex, and Dr. Walters, the Urban Medical Officer, to the eating of cockles in an uncooked or imperfectly cooked condition. The sewage of the town is discharged in an untreated condition into the sea from three distinct outfalls, the longest terminating 300 yards from the shore. There is no doubt that some of the sewage returns with the incoming tide upon the beach, and so pollutes the foreshore. The cockles are found lying partly imbedded in the mud, and samples of these, which were collected for bacteriological examination, were found to contain the *Bacillus coli* and *Bacillus enteritidis sporogenes*, both in the mud adhering to the shell and in the liquid contained within the shells. Those who have suffered from typhoid fever are nearly all persons who have only recently come to reside in the district. The consumption of shell-fish from the beach has so often been the reputed cause of typhoid fever that the older inhabitants never touch them. The water supply, milk, and the sanitary conditions generally of the infected houses were most satisfactory.—*The Journal of State Medicine*, Vol. VII., No. 12, December, 1899. Page 811.

GALLNUT FOR HÆMORRHOIDS.

The *Medical Times* for November, 1899, cites Dr. Roger S. Chew, of Calcutta (*Medical Age*, August 25th), as saying that he never performs an operation for hæmorrhoids now, as there is a very simple remedy—so simple, indeed, that the profession refused to accept it because it was unscientific. He also laughed at it at one time, but results brought the laugh against him. His tutor was an unlettered, untitled fakir, who dropped into his surgery one morning as he was asking a man with a huge bunch of extremely painful and bleeding hæmorrhoids whether he would submit to operation. "Sir," said the fakir, "pardon my interference. Will cutting away swelled veins alter the current of the blood permanently? That man is afraid of the knife. Let me whisper in your ear. Take a *chota harra* (the lesser gallnut), broil it as you would a coffee berry, then powder it, and, mixing the powder with a little fresh butter, let the man apply it to the piles after each

stool. If it fails to cure him, may Allah send me to perdition." "Don't muddle this," says Dr. Chew, with the "unguentum gallæ" of the pharmacopœia. The author tried it. Eight applications cured the man, and to his surprise the first application stopped the bleeding entirely. Since then Dr. Chew has cured some hundreds of cases with the same thing.—*New York Med. Journal*, November 25, 1899.

STERILISATION OF MILK.

Dr. Bertram Addenbrooke, in an interesting article on our town cow-byres and their influence on the number and variety of bacteria as delivered to consumers (*Birmingham Medical Review*, September, 1899), says:—"Having demonstrated the enormous number of bacteria present in milk from such sources, and having endeavoured to point out their probable deleterious effects, if the supply of milk from these sources must continue, the question arises, how are these bacteria to be destroyed without spoiling the milk. I found that by placing some milk in a test-tube, and the test-tube in cold water, and raising the latter to the boiling point, directly this temperature has been reached the bacteria are all destroyed, as shown by negative results on gelatin plates; or else by keeping the milk under similar conditions for $3\frac{1}{2}$ minutes at 85° C., the same result will be obtained. In neither of these cases does the milk itself reach its boiling point, nor do the characteristic changes take place making what is known as boiled milk; though it must be stated that some change unfortunately does take place, which can be detected, but it is very slight; though surely this is infinitely better than allowing milk to be consumed which may have serious pathogenic effects, apart altogether from the very serious risk of tubercular infection."

ICHTHYOL IN CORNEAL ULCERS.

Dr. B. F. Travis (*Medical Herald*, November) says that his attention was called to the use of ichthyol in ophthalmological work about eighteen months ago in an extract from a paper written by a French writer, who had used it, and was advocating it as a remedy for trachoma. He at once applied it according to that writer's method in an old case of trachoma in which there were corneal ulcers and pannus. The improvement in the ulcers was so marked that he decided to test its merits as a remedy for corneal ulcers, regardless of their cause, and he has used it in a great many cases, some of them very severe, and his results have been phenomenal. After

experimenting with the drug in different strengths he now applies about a thirty per cent. solution, diluted with glycerin and distilled water, ordering weaker solutions for home use. Ichthyol, he says, has no bad effect upon healthy epithelium, even in the stronger solutions. It is very painful for about one minute, but the instillation of a one per cent. solution of holocaïn a few minutes before the application of ichthyol is made renders it much more comfortable to the patients. The author prefers holocaïn from the fact that it is itself an antiseptic and is not contraindicated in corneal ulcers as is cocaïn. Among the great number of local remedies in use, ichthyol has given the best results in the writer's hands. Atropin is used for its anodyne effect and because it lessens the liability to iritis. Eserin is indicated instead of atropin in small, sluggish ulcers unattended by active symptoms, or in cases of deep ulcers near the margin of the cornea. In strumous cases the usual constitutional should be also employed.—*New York Medical Journal,* December 16, 1899.

NEW PREPARATIONS AND SCIENTIFIC INVENTIONS.

"*Soloid*" *Potassium Permanganate and Alum.*

Messrs. Burroughs, Wellcome & Co., Snow-hill Buildings, London, E.C., have recently added this preparation to their list of "soloids." It cannot fail to be useful for lotions and injections. Each soloid contains 3 grains of potassium permanganate and 5 grains of alum. The firm issues the preparation in bottles containing 100 soloids.

"*Tabloid*" *Potassium Chloride.*

Potassium chloride has been recommended as preferable to chloride of sodium (common table salt) for use by gouty patients. With their usual astuteness, Messrs. Burroughs, Wellcome & Co. have anticipated a growing demand on the part of the public for this potassium salt and have designed a tabloid of potassium chloride. Each tabloid contains 20 grains (1·296 gramme), and is so compressed that one, or more, if so desired, may be easily crushed into powder at the table and taken with food instead of ordinary table salt.

In Memoriam.

EDWARD HAMILTON,

M.D., Univ. Dub.; F. & Ex-Pres., R.C.S.I.;
Surgeon to Steevens' Hospital;
Surgeon-in-Ordinary to H.E. the Lord Lieutenant of Ireland.

It is our sad duty to record the death of this estimable and well-known member of the medical profession, which took place on Tuesday, December 5, 1899, at his residence, 120 St. Stephen's-green, Dublin.

Edward Hamilton was born in Dublin on April 13, 1824, so that, at the time of his death, he had reached the age of seventy-five and a half years. His father was William Cope Hamilton, for many years medical officer of the Dispensary at Milltown, Co. Dublin. His mother was Emily, daughter of John Robinson, notary public. He was educated at Portobello School, and in due course entered Trinity College, Dublin, becoming a Graduate of the University of Dublin in Arts in 1845 and in Medicine in 1846. On May 29, 1846, he obtained the Letters Testimonial of the Royal College of Surgeons in Ireland. On October 16, 1852, he passed the Fellowship Examination of the College, and in 1860 proceeded to the degree of M.D. in the University of Dublin. Such were his legal qualifications to practise.

Shortly after he became qualified, Mr. Hamilton began to lecture on Medical Jurisprudence in the School of Medicine, Peter-street, Dublin. However, he soon turned his attention to Anatomy, lecturing on that subject until 1857, when he transferred his services to a new School opened in connection with Steevens' Hospital, in which institution he served first as Resident Surgeon, afterwards until his death as Visiting Surgeon. In 1884 he was chosen Professor of Surgery in the School of the Royal College of Surgeons in Ireland. He was a clear and attractive lecturer, and filled his professorial chair with dignity and success.

Many honours fell to Hamilton's lot as the years passed by. He was in turn President of the Pathological Society of Dublin, of the Surgical Society, of the Dublin Branch of the British Medical Association and of the Irish Medical Association. To his character

and ability he owed the conspicuous honour of being twice called to the Presidential Chair of the Royal College of Surgeons—in 1876 and in 1893. At the time of his death he was one of the Surgeons-in-Ordinary to his Excellency, Earl Cadogan, K.G., Lord Lieutenant of Ireland.

Hamilton was an able but not a voluminous writer. To the pages of this Journal he contributed reports of surgical cases and various papers on the diseases and surgery of the rectum and anus. His clinical lectures on "Diseases of the Lower Bowel" also were published in this Journal during the year 1883 (Volumes LXXV. and LXXVI.).

Mr. Hamilton married Eliza, daughter of the late Dr. John Glover, of Philipstown, King's Co., and niece of Serjeant Glover, of the English Bar. By her he had a large family of sons and daughters. His four sons, two of whom are members of the medical profession, were all present at his funeral, which took place on the morning of Friday, December 8, when his remains were laid in Mount Jerome Cemetery in the presence of an immense concourse of friends and relatives and with every token of esteem and regret.

WILLIAM IRELAND DE COURCY WHEELER,

B.A., M.D.; M.Ch., Univ. Dub.; F. & Ex-Pres., R.C.S.I.; M.R.C.P.I.

The death of this distinguished surgeon occurred at his residence, 32 Merrion-square, North, Dublin, on Saturday, November 25, 1899, from typhoid fever, with renal and cardiac complications.

William Ireland de Courcy Wheeler was born at Annesborough House, Co. Kildare, on February 28, 1846. His father was Mr. George N. Wheeler, a landed proprietor, who traced his descent from Joseph Wheeler, of Strancurty, Co. Kilkenny, brother of Jonah Wheeler, consecrated in 1619 first Protestant Bishop of Ossory. From this prelate is descended the present Sir Charles Wheeler Cuffe, Bart., of Leyrath, Co. Kilkenny.

Mr. Wheeler's mother was Williamza Florence, daughter of the late Mr. William Ireland, D.L., County Kildare. His education was carried on at first by private tuition, afterwards at the Rev. Dr. Charles M. Fleury's School, Lower Leeson-street, Dublin. He

entered Trinity College, Dublin, in 1862, graduating as Bachelor of Arts of the University of Dublin in 1866, when also he became a Licentiate of the Irish Colleges of Physicians and Surgeons. During his undergraduate career WHEELER had studied medicine partly in the School of Physic in Ireland, partly in the Schools of Surgery of the Royal College of Surgeons in Ireland. He won the Purser Studentship at the City of Dublin Hospital in 1865. The dates of his other qualifications are—M.B., Univ. Dubl., 1870; M.Ch., Univ. Dubl., 1879; M.R.C.P.I., 1879; F.R.C.S.I., 1874.

Shortly after he became qualified in 1866, WHEELER was appointed Additional Medical Officer to No. 1 South City Dispensary District, Dublin, where he did good work in coping with the disastrous cholera outbreak of the year named.

In 1867 he entered the Army Medical Service, and studied at Netley, winning honours in Military Science and other subjects. Having for a short time done duty at the Royal Hospital, Kilmainham, he proceeded with the expeditionary force to Abyssinia in 1868, where he served with distinction, receiving the Abyssinian Medal and a letter of thanks from the Director-General, Sir G. Logan.

In 1871 WHEELER resigned his commission in the army and settled in Dublin. He was at once appointed a Demonstrator of Anatomy in the School of the Royal College of Surgeons in Ireland. In 1872 he was chosen Surgeon to the City of Dublin Hospital, a position he filled until his death.

The Royal College of Surgeons in Ireland soon recognised the ability of the budding surgeon, and choose the subject of this memoir first as Examiner, then as Councillor, and finally as President—in 1884, a notable year, in which the Centenary of the College was celebrated. To signalise so auspicious an event MR. WHEELER entertained Earl Spencer, Lord Lieutenant of Ireland, at a banquet in the Albert Hall of the College. In the same year also he represented his College officially at the celebration of the Tercentenary of the University of Edinburgh.

MR. WHEELER was a surgeon of no mean parts. He was a bold and fearless operator. His contributions to medical, and especially to surgical, literature are many and varied. While serving in the Army Medical Department he published in the Annual Report

"Experiments on Ventilation in the Wards of the Convalescent Division of the Royal Victoria Hospital, Netley." A *Blue Book* for 1868 contained "Experiments on the Air of the Hospital Ship in Abyssinia, and Meteorological Observations." To the fifty-sixth volume of this Journal (1873) he contributed a paper on the "Successful Removal of an Enormous Lipomatous Tumour from the Head." In the same year Mr. Wheeler invented and described a new apparatus for fractured patella. He wrote on "Amputation of the Thigh in Elephantiasis Arabum" in the *Medical Press and Circular* (1874), and to the same periodical he contributed a case of successful pharyngotomy about the same time. To the *Transactions of the Royal Academy of Medicine in Ireland* Mr. Wheeler was a frequent and valued contributor on surgical and pathological topics. Being a man of strong opinions and of somewhat hasty temper, he sometimes gave offence, but all was forgiven if not forgotten when it was seen that his life was drawing to its close, and a striking tribute was paid to his professional ability and standing on the occasion of his funeral, which was attended by a vast concourse of lay and professional friends and admirers.

In 1869 Mr. Wheeler had married Frances Victoria, daughter of the late Mr. Henry Shaw, cousin of the late Sir Robert Shaw, Bart., and of the Right Honourable Sir Frederick Shaw, Bart., formerly Recorder of Dublin. By her he had a large family of sons and daughters. Her premature death, just two years before his own decease, saddened the closing years of his life.

THE DUBLIN JOURNAL

OF

MEDICAL SCIENCE.

FEBRUARY 1, 1900.

PART I.

ORIGINAL COMMUNICATIONS.

ART. IV.—*The Position of Murphy's Button in Modern Surgery.* By J. S. M'ARDLE, F.R.C.S.I.; Surgeon to St. Vincent's Hospital, Dublin.

As far back as 1894 Dr. J. B. Murphy, of Chicago, wrote to me in the following terms:—"I send you a tabulated list of all cases reported to me up to date. I wish you would write a short article for the *Dublin Journal* on the subject, using the tabulated form which I send you as the basis of the article; and I wish you would lay particular stress on these facts—first, that the button has not produced the symptoms of obstruction in a single case so far; second, that it has been found retained in the intestinal tract *post mortem* twice. Once it was held there by a secondary carcinoma of the lower portion of the bowel, and, second, by adhesive bands constricting the bowel. In neither case did it produce symptoms, and in neither case did it have anything to do with the death.

"In looking over the history it will be noted that all the buttons have not been reported voided, and others have not been passed for a long time after the operation. The explanation for these cases, I believe, rests mostly, as in the first, in the fact that they were either overlooked at

the time passed, or, as in the second, they were retained above the sphincter ani. In one of my own cases in which the button was not passed I made an examination, and found it resting loose in the rectum. The history of the case leads me to believe that it passed to that position two weeks before, and the patient described the sensation of its passing at that time.

"In some experiments by Dr. Chaput he found the large button did not pass readily through the intestinal tract in the cadaver. Every practical surgeon knows that there is a great difference between the distensibility of the intestine in the living subject and in the cadaver. Where we have an obstruction of the bowel for 24 or 48 hours we know it expands two or three times its normal size. This is why the button passes so readily through the canal. Third, that so far there has been no case of non-union reported, except where the history and *post-mortem* conditions show conclusively that there was infection from without at the time of the operation. These and any other points that you may wish to make pro or con to the button may go to make up the article."

Notwithstanding my desire to please our distinguished surgical *confrère*, I avoided bringing this matter before the Profession in Ireland until I had an extended personal experience of the appliance alluded to, and although long before any other European surgeon had carried out the operation of lateral anastomosis by a metallic appliance I had had several successful cases, I nevertheless refrained from publishing these cases, or entering on the subject until my own cases gave me sufficient data upon which to found a reliable judgment. I have listened with some amusement to men discussing the merits and demerits of this appliance whose only experience was derived from hearsay evidence. Some who had seen Murphy's button inserted spoke as if they had themselves an extended and infallible knowledge of the subject. Some who had inserted a button, in explaining the details of the procedure proved conclusively that they were not carrying out Murphy's method. These failures recorded were not to be attributed to the inert materials employed in the operation.

Before calling attention to the cases upon which I base my communication, I desire to place on record the view I hold in common with a great many other surgeons, that this button is not of universal applicability in the carrying out of intestinal anastomosis, but that taken all round it has done more to advance this department of surgery than any other method of ancient or modern times.

In order to determine the place which Murphy's appliance holds in surgery we must contrast the results obtained before his exhaustive experimental efforts placed the procedures alluded to on a firm basis. For the purpose of comparison I shall confine myself to the most important, as it is the most ordinary and the most dangerous class of cases with which we have to deal—namely, those in which enterectomy was carried out for the relief of gangrenous hernia.

Of the instances of resection for gangrenous hernia, prior to Murphy's time, we find that of 76 cases, 41 died; 11 from yielding of the sutures; 8 from exhaustion; 2 from carbolic acid poisoning; 2 from asphyxia; 12 from septic peritonitis; 3 from simple peritonitis; in the others the cause of death is not noted. Now, a study of these cases will show on what this high death-rate depends. Of the 11 cases in which the sutures yielded, in 4 the fatal result was brought about by an overloaded condition of the bowel, in 3 it was due to imperfect suture, and in the remaining 4 to the low vitality of the bowel at the suture line, one of them having the mesentery detached for half an inch. In most of the cases death resulted from extravasation and septic peritonitis. Compare this with the results of the application of Murphy's button even in the earliest times in the hands of those who were acquainted with its proper application. Up to the year 1896 I was enabled to verify the results in 48 operations, as follows:—Internal strangulation, 14 cases with 1 death; gangrenous hernia, 12 cases with 2 deaths; fæcal fistula, 9 cases with no death. Thus in the 48 cases there were 3 deaths. This support of the procedure which I am here to discuss as an impartial advocate convinced me that, in justice to my

clientèle, I should adopt this method of treatment where admissible, because it was founded on exhaustive experimental research, and supported by results so much more favourable than any of the other methods. The cases which I desire to bring under your notice include examples of lateral and end-to-end anastomosis in the different regions of the intestinal tract.

PROFUSE HÆMOPTYSIS; EXTENSIVE ULCERATION AT PYLORIC END OF STOMACH.

CASE I.—A. F., aged twenty-four years, came under my care at St. Vincent's, when she gave the following history :—For two years she had had vomiting soon after meals, at first without any blood, but for ten months previous to admission there was much blood in the discharges from the stomach. She had been four months in another hospital, where every effort was made to check this hæmorrhage by medicines, and then laparotomy was carried out. The stomach being examined through an incision near the pylorus, much blood was found in the stomach, but no effort was made to deal with the ulceration which was present. The abdomen was closed, and union by granulation took place, leaving a great scar in the middle line. Hæmatemesis continuing, she came under my care, and on washing out the stomach I found that free acid was present in fair amount, and that bleeding was induced by every insertion of the douche tube. Distension with gas proved that the stomach was greatly dilated, and there was a long-continued whistling sound heard, most intense midway between the ensiform cartilage and umbilicus, during the passage of the gas. This sound was distinct in a line to the right and downwards, indicating the passage of gas through a narrow channel. Now and again a sudden rush of gas could be heard over the right semilunar line, showing that the pylorus was acting. I marked out the stomach on the abdominal wall for the class, and, selecting Billroth's incision, I cut through the rectus abdominis. Thus gaining free entrance to the upper abdomen, I exposed the anterior wall of the stomach. I found the pylorus pushed to the right and lower than usual. Extending from a point $1\frac{1}{2}$ inches to the left of this valve, a small scar extended for 3 inches, puckering the peritoneal coat and narrowing the right end of the stomach as at X, Fig. 1. To the left of this contracted part sacculation had taken place, so that the stomach projected into the wound. Selecting this prominent part of the organ, I made an incision large enough to admit one-half of a

medium-sized Murphy's button, the other half I inserted in the jejunum as shown in the figure, thus insuring the passage of food through a large portion of the stomach, but allowing its escape without coming in contact with the diseased part.

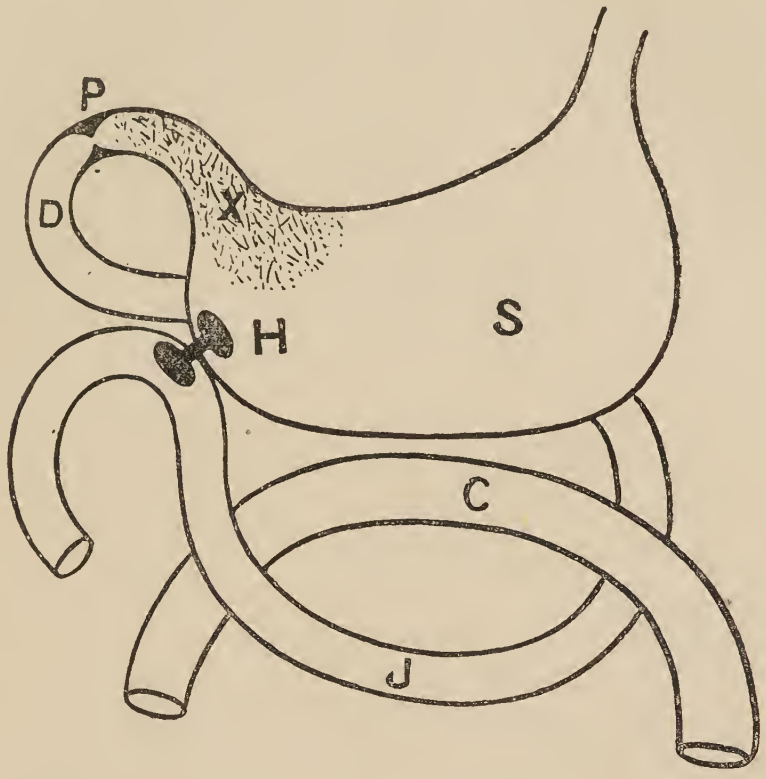


Fig. 1.

P, pylorus; S, stomach; D, duodenum; J, jejunum; C, transverse colon; H, Murphy's button; X, scar tissue.

Owing to the low vitality of the patient the first few days after the operation were anxious, and dark blood was noticed in the motions, but no vomiting of blood occurred then or since, and the patient made an uninterrupted recovery. The only distress she had was that at times a regurgitation of bile took place owing to the position of the new opening. She can take even the coarsest food without pain resulting, and there has never been the slightest trace of hæmorrhage from the stomach or the bowels since the first few days after gastro-enterostomy was carried out.

PERSISTENT VOMITING; ULCERATION ALONG LESSER CURVATURE.

Case II.—The next case to which I wish to refer is that of D. C., aged twenty-six years. He was sent to me by Dr. Walsh,

of Mallow, who, on account of rapid emaciation from persistent vomiting, thought there was little hope for his life. He had small, weak pulse, constant vomiting after the slightest amount of food, and he was constantly cold and clammy. Nutrient enemata were tried, but without much result. Gaseous distension proved that the stomach was much distended, and the pylorus constricted. I carried an incision from the left costal arch at the eighth cartilage downwards, and to the right, midway between ensiform and umbilicus to end, at right semilunar line. On exposing the stomach I found it dilated as depicted in Fig. 2. Along the lesser curve, as at X, there was a thickening, over which the serous coat was puckered into folds. The slightest touch on this part caused a marked contraction of the entire stomach.

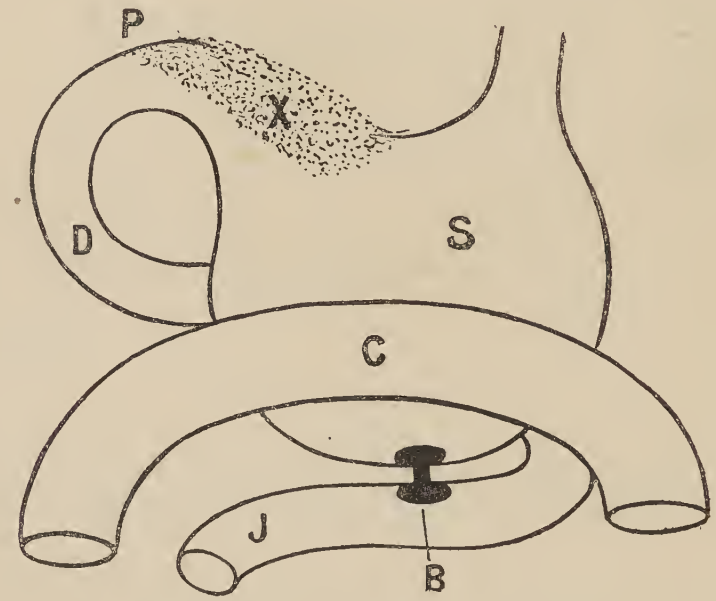


Fig. 2.

P, pylorus; S, stomach; D, duodenum; J, jejunum; C, transverse colon; B, Murphy's button; X, scar tissue.

In this case I determined on carrying out an operation which would not be followed by regurgitation of the contents of the duodenum. Selecting the proper spot in the transverse meso-colon, I made an opening large enough to allow a fixation of the posterior wall of the stomach (S) to the first part of the jejunum, as shown in Fig. 2. The operation was a rapid one, and notwithstanding the weakness of the patient he soon rallied. Three days after operation liquid food was allowed; four days later solids. The abdominal wound was soundly healed on the eighth day, and since that time he has rapidly gained in weight.

CHRONIC ULCERATION OF STOMACH, WITH ENORMOUS DILATATION AND PERSISTENT VOMITING.

Case III.—B. K., aged twenty-one, came under my care on the 10th Nov., 1898. For a long time he had been suffering from epigastric pain and distension of the upper abdomen from frequent nocturnal vomiting. For some weeks he had been under the care of Dr. M'Hugh, who kindly asked me to see him. By careful washing out of the stomach the boy had been much relieved, but as no food seemed to pass beyond the pylorus, the stomach was becoming more and more dilated; no real improvement in his condition occurred. The morning of the operation I witnessed the evacuation of the stomach through a Kussmaul tube. The liquid food he had taken on the previous evening and during the night had already decomposed, and the discharge—measuring two quarts—was extremely offensive. The stomach was washed out thoroughly with warm boracic solution, and the patient put under an anæsthetic. I made an incision from the ninth costal cartilage on the right, extending downwards in the left midway between the umbilicus and the left costal arch for a distance of $5\frac{1}{2}$ inches. Stomach was found enormously dilated and hypertrophied, the pyloric end drawn upwards towards the liver, and the seat of marked thickening without any nodulation. I turned the great omentum and transverse colon upwards on to the chest-wall, keeping them enveloped in warm sterilised towels. Opening the mesocolon I brought the posterior wall of the stomach into view and inserted one half of a Murphy's button, the other I introduced into the jejunum, just at its beginning. Locking the button joined the organs in the desired position.

Notwithstanding his weak condition the patient bore this short operation well, and I found him the next morning free from pain and brighter than he had been for many months. Four days after he was able to take liquid nourishment with comfort; in a week he partook of solid food, and on December 10th he left hospital perfectly well.

These cases I have exhibited during the past Session of the Royal Academy of Medicine in perfect health.

INTUSSUSCEPTION OF SIGMOID; COMPLETE OBSTRUCTION.

Case IV.—Miss M., aged twenty-five, was admitted to the private hospital, Lower Leeson-street, in April, 1897, suffering from acute intestinal obstruction, which resulted from an intussus-

ception of the sigmoid flexure of the colon. Assisted by Dr. Horne and Mr. Fagan, I opened the abdomen, released the sigmoid, and joined the descending colon to the rectum with Murphy's button, as shown in Fig. 3. Although the patient was in a state of collapse she rallied soon after the operation, and left the hospital quite well 16 days later.

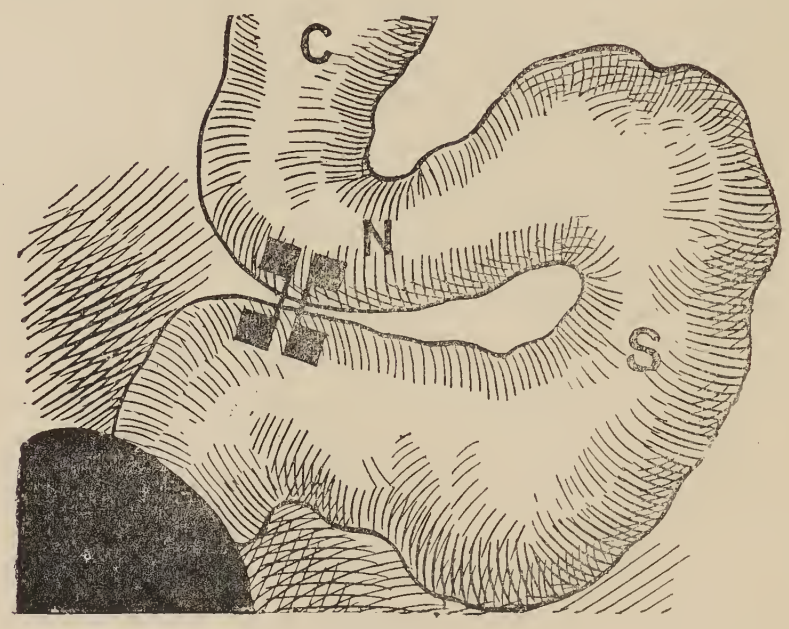


Fig. 3.

GANGRENOUS FEMORAL HERNIA; RESECTION.

Case V.—Miss H., aged thirty-six, came under my care in 1898. She had arrived by the night mail from Limerick, and was much exhausted. I found that she had a strangulated right femoral hernia, and as time seemed to me to be of importance, assisted by Mr. Louis More O'Ferrall, Dr. Reginald White, and Dr. Ahearne, I exposed the small hernial sac, which was dark purple in colour and surrounded by large serous exudation. The sac contained about two drachms of very fœtid brownish-yellow pus, bathing a loop of small intestine, covered with greyish green patches. The intestinal wall was thick and doughy; the gloss had disappeared entirely from its serous surface. After thorough irrigation with warm corrosive (1 in 1000) I cut Gimbernat's ligament, and as this did not enable me to draw down the intestine, I cut through Poupart's ligament. All the time a stream of warm boracic solution was playing on the wound and over the damaged intestine. I now brought down through the wound a long loop of small intestine, and as I found the mesentery thrombosed I was obliged to resect seven inches of the bowel with the affected portion of the mesen-

tery. I joined the sound portions by a medium-sized button, dried all the tissues carefully, and returned the sound intestine to the abdominal cavity. In order to make up for the deficiency in the

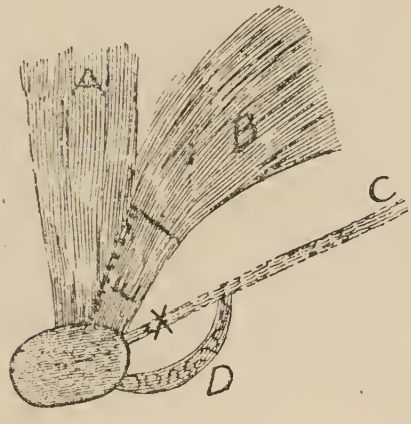


Fig. 4.

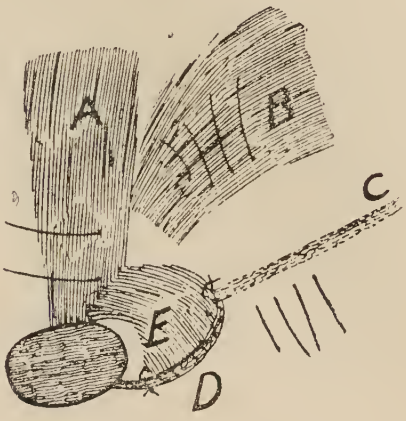


Fig. 5.

abdominal wall, brought about by the section of Poupart's ligament, I split the conjoint tendon (Fig. 4), and cutting the lower and outer part two inches from its insertion I joined the piece thus free (E, Fig. 5) to the pectineus muscle below and to the outer piece of the cut ligament (D, Fig. 5); deep and superficial suture of the wound completed the operation. The course of this case was uneventful. The button passed on the 17th day; the patient left Dublin on the 22nd day after operation, and she has since been in perfect health.

STRICTURE AT SPLENIC FLEXURE OF COLON.

Case VI.—Mrs. M. was sent to me by Dr. Darby, of Monasterevan, to the Private Hospital, 96 Lower Leeson-street. He had

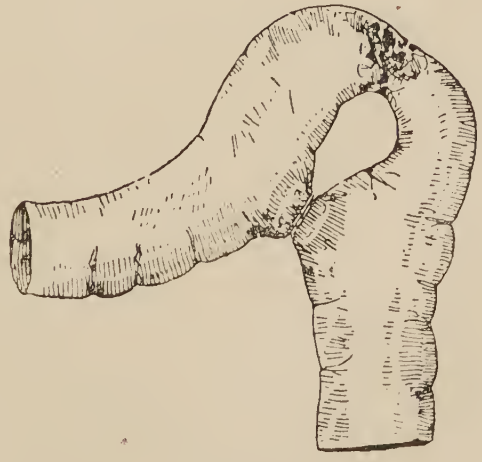


Fig. 6.

correctly diagnosticated the obstruction in the colon, and as this had been complete for five days, and as the patient showed signs of extensive peritonitis, I thought it right to operate immediately. At 9 p.m., within an hour of her arrival in Dublin, I carried out the following operation, assisted by Dr. Horne and Mr. Fagan :— I opened the abdomen in the left semilunar line, and found the obstruction to exist at the splenic flexion of the colon. I joined the transverse and descending colon by a large-sized Murphy's button (as in Fig. 6), and after breaking down a great number of recent adhesions I closed the abdominal wound. The patient progressed rapidly; on the 7th day she was allowed up, and two days later the button was voided. A week later she returned to the country, and has since enjoyed perfect health.

(*To be continued.*)

ART. V.—*Tropical Diarrhœa.* By SURGEON-GENERAL ALBERT A. GORE, C.B.; late Principal Medical Officer H.M. Forces in India.

THIS affection, as distinct from the symptomatic diarrhœa of cholera, enteric fever, dysentery, and other complaints, was early commented upon by Mathew Bailie, Ranald Martin, and others, as the secondary or chronic diarrhœa of Europeans who had resided long in hot climates; always difficult of cure, and when of long standing constituting a class of disease dangerous and intractable beyond most others, and in a large proportion of instances dependent on chronic diseases of the liver, or a frequent and immediate evidence of dangerous congestion, or of inflammation of that organ, which, in the first instance, suspended its secreting power, and was followed by the characteristic looseness which in the days of high living, heavy tippling, and much drinking in India speedily, according to Lind, put an end to the patient's life. When ladies drank their bottle of claret daily, and gentlemen indulged in three or four, besides the far-famed Madeira, matured by a double voyage round the Cape, now no longer obtainable, and country beer was also in general use, described as "a tempting beverage, suited to the very hot weather, commonly drank during the repasts; in truth nothing can be more gratifying at such a time, but especially after eating curry!" This

delectable beverage was composed of one-fifth part porter or beer, with a wine-glass of toddy or palm wine, a small quantity of brown sugar and a little grated ginger, or the dried peel of Seville oranges or of limes—the temperature meanwhile indoors from 90° to 100°. The soldier followed the habits of his betters as far as his means allowed, but in the baser liquors, and he died at the rate of 89 per 1,000 annually. Even in the best regiments, when the hardships and vicissitudes of a campaign were superadded, the loss was enormous. The 26th Cameronians landed in China during the first war conducted by Lord Gough, so late as 1840-41, its colonel tells us, 900 strong; the same number of recruits joined, and it reached England with only its original number. Tropical diarrhœa contributed its quota with the intermittent forms of malarial fevers. Concerning it, Martin remarks—"It was found in the General Hospital at Calcutta that among the European soldiers who served in China the diarrhœa, which was then always a sequel to the agues of the country, proved very generally fatal; that of the detachment of 28 cases admitted with China diarrhœa, 25 were noted as having previously suffered from intermittent fever, and eleven from pain in the epigastric region and liver. They were in the last stages of diarrhœa of the worst kind—14 died in hospital, and it was doubtful if any of the others would reach England." Besides other organic visceral abdominal lesions, the liver was found to be large, soft, and flabby; the commencement of the pylorus and duodenum abraded and granulated with a pale, attenuated "diaphanous" condition of the small intestine generally, and the large intestine variously affected. The mesenteric glands were generally much enlarged.

In the latest campaigns in India on the North-west Frontier, 1897-98, diarrhœa ranked third in the order of frequency of occurrence in all classes:—

Fevers - - -	17,067
Dysentery - - -	7,100
Diarrhœa - - -	2,193

But so greatly changed were the conditions under which campaigns were then fought, as well as the hygienic life of the soldier, that the mortality from diarrhœa was only

120, chiefly followers. Among the two British regiments on the elevated Tochi Valley it had appeared in an epidemic form, yielding 215 admissions and 11 deaths, and was little amenable to treatment. It had also been very prevalent among one regiment of Jats, who were unable to obtain a sufficient quantity of their accustomed food of milk and fresh vegetables, and were obliged to conform to the recognised native field ration for an army on active service. A somewhat similar observation was made during the first Ashantee war when rice was sent out to the starving Fantees, to which they were entirely unaccustomed.

Martin remarks—"I have observed, both in India and in England, that a very severe form of chronic diarrhœa frequently followed upon intermittent forms of malarious fever." The principal medical officer of the Tochi Valley Field Force writes more than 40 years afterwards:—"The exciting cause of the diarrhœa and dysentery at Sheranni was no doubt the water. The only available source of supply was the Tochi River; this, in addition to containing a large quantity of salts in solution, chiefly sulphate of soda, contained a large amount of earthy matter in suspension, also a considerable amount of vegetable matter, due to the extensive irrigation in the upper valleys. This was always worse when the river was in flood; when clear minute patches of mica were observable, irritation of the bowels was set up, and diarrhœa appeared, frequently developing into dysentery. *Malaria, although not exactly the exciting cause, was present in almost every case, and in many it was impossible to say which was the primary disease.* Early in September the epidemic form of diarrhœa and dysentery ceased, and ague became very prevalent, also remittent fever of a very severe type, and continued until the cold weather set in. At other stations down the line the same diseases prevailed, but of a milder type, which was attributed to the water supply being obtained from springs, free from suspended matter." It was also noted that there was a marked difference in the two European regiments serving under exactly similar conditions, the type of the disease being much milder and more amenable to treatment in the stronger, the weaker proving utterly wanting in recupera-

tive power. In the one the majority recovered, and the battalion in the cold weather was fit and well, while in the other a very low form prevailed, and it had to be removed from the valley. There are great vicissitudes of climate in this river valley; intensely hot during the day in the summer, very chilly at night, and bitterly cold in winter, from reduction of temperature and keen mountain blasts. Among the men of the Jat regiment the unaccustomed meat ration, which they could not assimilate, even in hospital, acted as a purgative.

In the campaign now proceeding in South Africa it was found at Mafeking that when the pure supply of water was cut off by the enemy diarrhœa and fever followed; next, at Ladysmith the muddy river water was a cause of looseness of the bowels prevailing. From Orange River "we breathe dust, drink dust, and eat dust, very soon we get a little ill, for our internal arrangements rebel against the new order of things." In West Africa diarrhœa and dysentery is little prevalent at Sierra Leone, but on the Gold Coast, where the water supply is bad and vegetables and fruit with difficulty procurable, scorbutic diarrhœa and dysentery are far more prevalent. In the first station the water supply is excellent, and the meat and vegetable supply also far superior. In the latest campaign in Burmah, where malaria and indifferent water were common, the returns showed a great excess of diarrhœa and disease of the digestive organs. These examples suffice.

In tropical invalids now returning to Europe from India one does not often observe the extreme forms of the disease described by Martin and others as *diarrhœa alba*, conveying the impression that the patients had been drained of all their fluids, and thus became dried up and attenuated, but when present the state of the system is generally anæmic, and the intestinal secretions are either pea-soupy, semi-fluid, or yeast-like, with little or no colouring matter, generally voided without pain, or with some previous griping from distension due to defective assimilation—copious and exhausting. All the symptoms when they occur in the advanced stages indicate a diminished vitality. The evacuations occur mostly at night or in the early morning, with a great sense of relief for the time.

Other reasons why the more grave forms are now rarely observed is due to the fact that the old Indian of thirty or forty years' service in the country has become a *rara avis in terris*, the average stay of the short-service soldier is not more than four or five years, and the facilities for short leave to recuperate in England or Australia are so much greater. In the wasting process the old four or five months voyage round the Cape in winter was apparently more hurtful than curative, a great aggravation of the purging occurring with the so-called bracing cold, which penetrated into the bowels in spite of all precautions. Nothing is so miserable for a tropical invalid as to land in this country in the depth of winter, or during the prevalence of cold, easterly winds. Only those who have experienced the discomfort can describe it.

It is satisfactory to find among the cases recorded by the older standard authors of repute that very severe forms, especially when associated with suspended functions of the liver, and with the physique and vital powers reduced to almost the lowest limits compatible with life, recovered under judicious dietetic, hygienic, and medicinal treatment—viz., vegetable and mineral astringents, conjoined with opium, with a view to restrain the discharges; a bland, unirritating diet, very careful at all times to avoid quantity; medicines to elicit biliary secretion; avoidance of over-exercise or imprudent exposure to cold or wet, or any deviation in diet and beverages from the strict regimen ordered.

In more recent times in India and other similar climates with elevated so-called health-resorts, the disease is described as "hill diarrhœa," and when it occurs in the hill ranges of the Himalayas visitors very generally observe a change to a pale, colourless state of the intestinal secretions soon after their ascent, resulting from the sudden cold, combined with damp of the monsoon. New arrivals at such times within a comparatively few hours find a complete change in temperature, very often are insufficiently clothed, and not unfrequently are laid up for some days with severe bilious symptoms pointing to hepatic congestion, the consequence of the sudden chills to the surface of the body, previously relaxed by the heat of the plains.

Some stations are affected more than others—some in the Simla group (Chakrata, and Ranikhet) have had bad reputations. At the stations named it was noticed in 1886, during one rainy season, that out of 1,000 men quartered there over 200 admissions occurred, or 20 per cent. of the entire strength. It was far more common in the men than women, and in children it was rare. Of 127 cases specially noted 119 were men, 7 women, and 1 a child. The comparative immunity of the women was accounted for by the slight exposure they underwent to climatic influences as compared with the rank and file. The experience in these particular cases was, that provided the patient carried out his instructions—a very difficult matter in this disease—and there was no untoward condition, this affection was perfectly curable. Of the foregoing cases, most of them were men of a regiment which marched to the hills in May, and who had been lately undergoing considerable exposure in the plains, and only arrived at their hill station three weeks before the rains broke. Their constitutions had been undermined by a prolonged period of marching and living under canvas in hot weather; their hepatic systems were more or less congested, and the sudden change from hot, dry weather to a bitterly cold and wet climate caused, in the opinion of the medical officer in charge, the great prevalence of diarrhœa. Commenting on the men, he writes: "The more one sees of this affection the more the conclusion forces itself that it is brought about by a sudden chill acting directly upon the liver." The season of the year at which it appears being the early part of the rainy season, when there are bitterly cold, damp days is quoted in support, while it is admitted that a constitution undermined by malarial attacks, and probably with the malarial virus actually present, is more prone to the exciting causes. In ordinary "hill diarrhœa" an aphthous ulceration of the mouth and tongue is rarely present, and then only in very advanced cases with much emaciation. Sometimes dysentery supervenes, slight or severe. The inability to assimilate the vegetable articles of diet may lead also to an acquired scorbutic taint, which has to be taken into consideration in the treatment.

My first introduction to this most tiresome disease was

when in charge of the 30th Regiment and station of Ranikhet, 19 miles from Naini Tal, in the Kumaon hills, 1880-81. It was always very prevalent at that station, some 6,000 feet above sea-level, on a plateau; the temperature was very high before the onset of the rains, and my first attack certainly followed a congested liver from the sudden chill, and, once set up, it continued at intervals for a year and a half, until I left India with some loss of weight and a general feeling of malaise. There were some severe cases among the officers' wives. Two had been recently confined, but recovered. In one the loss in weight was considerable, and in the other I found powdered, dried Bael fruit boiled in milk a very effective remedy. The water-supply was not a good one, and at the onset of the rains was, no doubt, more impure. Some five miles on the road to Almorah was situated a dak bungalow, a change to which always acted beneficially. The open surroundings were markedly different from the somewhat crowded cantonment, where the air was not nearly so fresh, and the water-supply quite different and more liable to fæcal pollution, and pollution from decaying vegetable matter. After two years, the then extent of a home tour, the affection disappeared, and on completion of six years in Egypt there was a decided increase of weight and strength. Two years again at home, and a year on the plateau of Upper Central India, passed without any return, but on returning to the Simla ranges of hills at the onset of the first rains it again recurred at intervals at a most inconvenient season. Many others were similarly affected during the monsoon. Water is not usually filtered at Simla, as the supply is a good one, and the chemical analysis calls for no special remark. Ours was usually boiled, but not that of the aerated waters supplied by local chemists of good repute. Here again it was probably due to chill after much tropical service, aggravated by the constant mental application and sedentary office-life of an onerous charge, and a prolonged attack of that most lowering affection, influenza, contracted while on a tour of inspection in the plains, and the absolute impossibility of carrying out a proper course of hygienic or dietetic treatment.

In contradistinction to "hill diarrhœa," "chronic tropical diarrhœa" is now held to be a disease of a specific nature, the cause of which is unknown—the effect of the specific poison in the small intestine being to alter its secretions, and to allow the food to retain its acidity. Hence the dyspepsia, malnutrition, and acid stools—the generation of a poison which produces extreme anæmia and destroys the colouring matter of the bile—the hydrobilirubin. That its activity may be greatly increased by the nature of the intestinal contents, often developing freely in farinaceous and animal food, and that it may be starved out by limiting the patient's diet, that it appears not to grow if the food consists exclusively of milk, and that in some case an exclusive diet of meat juice seems to lead to its annihilation, and with a diet of certain fruits (such as strawberries) it also does not seem to thrive; and in the more advanced forms the essential pathological condition is limited to a lesion—an inflammatory and degenerative disease of the mucous membrane lining the alimentary canal, and that death is brought about by a process of gradual starvation, with a marked diminution in size and weight of nearly all the organs and tissues of the body.

Emil Schwarz (*Centralbl. f. d. ges. Therapie*, August, 1899) inquires how far in disease of the liver the food can be selected so that the system shall suffer as little as possible from the loss in hepatic activity, and also whether the progress of the disease may be directly influenced by the patient's mode of life. The influences exerted by the liver upon albuminous, starchy, and fatty foods, and upon the final products of nitrogenous metabolism and digestion, are not independent processes, but are the final results—all we can at present understand of a complicated process taking place in the liver cell. In every parenchymatous lesion all these influences suffer simultaneously, if not equally, but it is only the most severe cases of acute disease, with rapid destruction of the parenchyma (acute yellow atrophy, phosphorus poisoning), that lead to intoxication, with the end products of metabolism or digestion. In chronic disease metabolism suffers little till the final stages. The increase of ammonia in the urine depends, not on hepatic

insufficiency, but on the abnormal quantity of the acids in the system, due to deranged digestion. Schwarz sees no reason in the condition of the parenchyma to diminish either nitrogenous or amylaceous food, nor, unless there be lack of bile in the bowel (any form of jaundice), the amount of fat. But the digestive tract is involved by catarrhal processes, due primarily to the deleterious ingesta which cause the hepatic disease (for example, alcohol), and secondarily to the disturbed circulation, which often, even in early stages, leads to hæmorrhage—œsophageal, gastric, or intestinal. Resorption is delayed by the portal congestion—the surface available for it is reduced by shortening of the intestine (to as much as one-half), and atrophy, owing to periphlebitis of the portal system, and chronic peritonitis and stagnation of ingesta leads to increasing autointoxication. Everything indicates that the food should be capable of rapid conversion into an absorbable condition, should be highly nutritious in small quantity, and should leave little refuse after digestion, and he recommends that in every case with serious hepatic symptoms a trial, at all events, should be made with a rigid milk diet. Even serious degenerative processes are not necessarily progressive, and by excluding further injury, permanent improvement may be obtained. Abstinence from alcohol must be a primary condition in any case capable of improvement, and as recent work has proved the influence of caffein upon the glycogen in the liver, tea and coffee are to be avoided.

The all-important question for the patient and physician is how this disease can be best treated? Naturally prevention ranks first in those modern days of *Sanitas, omnia Sanitas*—a too long tropical tour should be prohibited without adequate intervals to recuperate its lowering effects upon the system. During the period of enforced tropical residence everything that tends to lower the vital powers or nervous system should be avoided, habits should be steady, methodical, and regular; the amount of exercise sufficient, but not in excess of the powers of the individual; the diet moderate and not stimulating; the number of meals not excessive, and stimulants used only in moderate quantity,

and only of the best quality. The lunch should be of the very highest description, and the dinner of very moderate dimensions, of few courses, and of the best ingredients obtainable. Bazaar supplies are, as a rule, of very poor quality and innutritious—a great drawback to Indian or other tropical life; but this difficulty is not insurmountable if individuals will combine and keep their own poultry and sheep, and see that they are fed and well cared. This good old custom has almost died out, but should be revived. A visit to the admirably conducted Government grass farm at Allahabad will prove at once how much can be done in this direction, and with profit. All water should be carefully boiled, and milk sterilised, and the native kitchen most carefully superintended. Periodically there should be intervals of complete change and recreation away from the usual place of abode. It is well known that on the march at the proper season the European recuperates the most quickly. The system will, with these precautions, be placed in the best position to resist disease, which will also be more amenable to treatment, should it occur.

When proceeding from the plains to the hills flannel should invariably be worn next the skin, and for the early start a light overcoat, to be again put on as the evening closes. The bath should, in the higher altitudes, be a warm one, and be made use of when not heated by exercise. Cholera belts should be worn, and malarial and heated valleys in the hills avoided. The rooms should be bright and well lighted, on the most favourable side for the sun during the rains, and be well warmed, and more especially bedrooms in the early morning before rising to dress, and when retiring for the night. Should diarrhœa supervene flannel clothing should be at once taken into use, and the diet carefully regulated. It should be milk, and nothing but milk, aided by a teaspoonful of liquor peptonis in a wineglassful of sterilised water three or four times a day. A mild castor-oil purge, 4 drachms in warm milk, guarded by a few drops of opium, may be given as a preliminary in order to remove any irritating ingesta which might be present in the bowels. The quantity of milk at first should be small—3 ounces every three hours until the dyspeptic

condition and distension have subsided. It may then be increased to half a pint at a time, and gradually to 100 ounces daily. If the attack is severe the patient should be kept in bed, wearing a warm flannel pyjama suit until the fluid is increased to 6 or 7 pints. The slightest indiscretion or indulgence in solids will at once bring on the white characteristic stools, and a recurrence to the treatment *de novo*. In the stage of improvement, and when the stools have become quite solid, raw eggs in milk, a little rice, sago or corn-flour, malted food, chicken broth at the mid-day meal, and a little weak tea or coffee added to the milk morning or evening. When bile gradually returns to the fæces, and convalescence is fairly established, and the rains are over, a little chicken or tender mutton may be made use of, and from thenceforth there should be no indiscretion in diet. There are few cases which will not give way to this course of dietetic treatment when rigidly enforced. Of the treatment by strawberries I have no personal experience. At many hill stations they are easily obtainable when in season, and we have always made use of them without any apparent ill-effects. Grapes have proved very useful in certain forms of scorbutic dysentery when the rinds are not swallowed. The green Cabul grape is sold in small boxes, and is always most grateful to the palate, and I think harmless if not useful. The small and soft banana may also be made use of when fruit commences to be borne.

Stimulants, as a rule, are quite unnecessary, if not positively harmful, except in those cases where the anæmic symptoms are very marked, and the vital energy is exhausted. A little of the very best brandy may then be mixed with the milk with advantage.

In the stage of convalescence two glasses of well-matured light port or one of Taragona have proved beneficial, alternating with brandy and a raw egg beaten up in warm milk. Brand's essences of chicken or mutton are useful, raw meat juice and Savory and Moore's peptonised cocoa and milk. Rusks are preferable to bread. Of all the solid foods it should be remembered that tripe well boiled for at least four hours, and served up with milk sauce and a little onion, is one of the most digestible.

The average time for digestion of boiled mutton is three hours, boiled fowl the same, tripe one hour. All tinned meats or fish should be carefully avoided. With regard to medicinal treatment, the older writers on tropical diarrhœa had much faith in the vegetable and mineral astringents, conjoined with opium, with a view to restrain the discharges and of restoring the biliary secretion—two grains of mercury and chalk with one of opium night and morning. Many later physicians make use of dilute sulphuric acid and opium to moderate the discharges, especially when in excess. Extract of Bael fruit, or the powder in boiled milk, in certain cases, has a beneficial effect in removing the laxity of the bowels—$\frac{1}{4}$ to 1 grain of ipecacuanha every four or six hours continued for a considerable period until the stools decreased in number, or showed signs of formation. Nitro-muriatic acid baths and Carlsbad salts when the period between convalescence and the return of the bile to the fæces was prolonged. Henderson testifies that "Rein's Mixture"—an infusion of the rough barks of simaruba and the common native Chinese cinnamon—has been of distinct service in the treatment of chronic diarrhœa which had resisted the usual remedies. If any medicine is used, Watson prefers rhubarb and soda combined, occasionally small doses of castor-oil, and now and then a few grains of Dover's powder. The powdered outer rind of the mangestein has also had its advocates at the onset of hill diarrhœa. Medicinal treatment cannot replace the carefully regulated dietetic regimen indicated; but, while this is at once entered upon, if the discharges are frequent and exhausting some preliminary check on them is necessary. The pains from the preliminary flatulent dyspepsia may be so acute as also to require a prompt remedy—sulphate of lead, opium, spirits of chloroform, in a bitter infusion, will usually be effective in the first; but better, the mistura bromidi co. c. pepsino (Hewlett). This contains bismuth, nux vomica, small doses of morphia, spirit of chloroform, compound solution of cardamoms. A full dose of chlorodyne or a grain of solid opium, with a warm compress over the abdomen, renewed as often as necessary, will relieve the latter as an immediate remedy preceding the receipt of the mixture

To restore the biliary action, nitro-muriatic acid internally in infusion of chiretta, with nitro-muriatic acid baths, are, perhaps, mostly to be relied upon.

Intestinal antiseptics do not appear to have been tried in the disease, but the high authority of Burney Yeo strongly supports the view that in duodenal indigestion, where excessive fermentation occurs in this part of the canal, in muco-membranous colitis, and in summer diarrhœa, they are of much value.

An immediate change to a station at a lower level (some 4,000 feet) will very often suffice to check the disease until the season permits of a return to the plains, or when this is impracticable, a return to the latter—a choice of evils. Should invaliding become necessary, the patient should not arrive in England during the bitter cold of winter or biting easterly winds of March, but rather remain *en route* in Egypt or the Riviera until spring is well established. While in these places he should retire indoors to warmed rooms before sunset. But even then errors in diet must be avoided, and the same precautions as to clothing should be taken, until the intestinal tract regains, at least in part, its usual tone and power of again assimilating the food ingested. On arrival in England warm flannel vests and drawers should still be worn, and every form of chill avoided—late dinners and night entertainments in heated rooms—until the convalescence is absolute and complete.

ART. VI.—*A Contribution to Renal Surgery.*[a] By THOMAS MYLES; Vice-President of the Royal College of Surgeons in Ireland; Surgeon to the Richmond Hospital.

I HOPE I may be pardoned for again venturing to bring under the notice of this Section a subject on which I have on former occasions said so much that your patience can hardly be expected to tolerate more from me.

Yet, at the risk of seeming wearisome and insistent, I feel that the importance of the surgery of the kidney at the present moment is so great that I hope you may, of your

[a] Read before the Section of Surgery of the Royal Academy of Medicine in Ireland, on Friday, December 8, 1899.

kindness, be induced to listen to me for the very few minutes this communication will occupy.

Some time ago a patient died in the Hardwicke Hospital of typhoid fever. I was peculiarly interested in him, because some nine years before I had operated on him for stone in the right kidney. His death, doubtless much to be deplored, gave me an opportunity, unique in its way, of examining a kidney which had been primarily the seat of a calculus, and secondarily the subject of an operation. At the time of the operation the kidney was slightly enlarged, and more vascular than normal. There had never been pus in his urine, nor evidence of suppuration in the kidney. On examining this kidney *post mortem* I found it shrunken to about one-third of its normal size, the cortical secreting portion being cirrhotic and atrophied. At the time of the operation the stone, a large one, was found imbedded in the pelvis of the ureter, with short branches projecting into the infundibula. It was removed by incision of the pelvis in its posterior aspect, the kidney substance not having been touched at all. The capsule was not interfered with in any way, and his recovery was uneventful.

What, therefore, was the cause of the atrophy of the kidney substance? 1st. Was it the operation, which inflicted no damage on the kidney substance? 2nd. Or was it due to the continuance of a chronic inflammatory process, originally set up by the presence of the stone, and continuing after the cause had been removed? 3rd. Was it trophic in origin, due to injury to the renal nerves at the time of the operation?

Whatever be its cause, the result is most profoundly interesting, and, so far as I can ascertain, no similar fact has yet been brought under the notice of the surgical world. If it be established that atrophy of the kidney follows a simple nephro-lithotomy, our views as to the gravity of the operation are bound to be largely modified, even in the most favourable cases, and when the primary result is most successful.

The next point to which I would ask your attention for a moment is that of nephrotomy and fixation of the kidney in cases of persistent hæmaturia, of which so much has lately

been written. Some time ago I published elsewhere notes of a remarkable case, with the details of which I will not trouble you now, which bore on this question. Briefly stated, the facts were:—A young lady with persistent hæmaturia and pain, was found to have two floating kidneys, that on the left being very mobile and tender. Hæmostatics, &c., were tried perseveringly in vain. Cystoscope showed blood flowing freely from left ureter, increased by pressure; kidney exposed by lumbar incision, examined in every way, including the X-ray and screen applied to the kidney lying outside the body. No stone to be either felt or seen, no evidence of tubercle or tumour. Kidney replaced and fixed by my own method; rapid recovery from operation; wound healed, but bleeding as bad as ever. Subsequent nephrotomy showed an apparently healthy kidney to the naked eye, but my friend, Professor McWeeney, on careful examination, finds that the mucous membrane of the pelvis has undergone an angeio-myxomatous degeneration, and that this was the explanation of the bleeding and the justification for such a very grave operation, which happily proved to be most successful.

That bleeding may be due to a floating kidney is intelligible enough. A kink in the pedicle produces obstruction to venous return, and rupture of the thin-walled vessels in Bowman's capsules. That hæmorrhage so occurring should be cured by fixation is an obvious corollary, but why such a kidney should be split from end to end before fixation, and be put back in two pieces instead of one, is to my limited capacity totally unintelligible. What benefit can splitting the kidney effect that the milder fixation alone will not accomplish? Yet we are gravely told that the cases of hæmaturia that persist after fixation are due to neglect of this so-called trivial addition to the operation. Is it possible that the splitting of the kidney sets up cirrhotic atrophy, such as that found in the case I first described, and so cures the hæmorrhage?

I put forward these few points as suggestive bases for the consideration of the members of the Section, as I confess my own views are very nebulous on the subject.

The methods of fixing the kidney suggested by various

operators are so many, so diverse, and, in some cases, so complicated, that it is pretty obvious no one method has as yet obtained general approval.

Under these circumstances, may I claim your indulgence in asking you to give a trial to the method I have adopted for several years past, which at least has the merits of being simple, free from danger, and, as I have found it, efficient. It is as follows:—The kidney being outside the body, its capsule is split along the convexity from end to end, exactly as the pathologists do it in the *post-mortem* room. Following the method of these gentlemen it is, by the aid of the thumb nail, peeled completely off the posterior aspect of the organ. Some slight hæmorrhage takes place from the raw surface so produced.

The kidney still out of the body its resting place is fully exposed, and as much of the peri-renal fat as possible is removed, bringing into view the aponeurotic covering of the quadratus lumborum and psoas muscles. On this glistening surface the raw back of the kidney is placed, and held *in situ* by an assistant making pressure through the abdominal wall while the wound is being closed. No sutures are employed; there is no splitting of the fascia, or of the tendons of the dorsal muscles; there is no injury done to the kidney substance, and there is, therefore, no danger of producing a septic nephritis. It may be said, How do you know this method is effective. My answer is twofold—1st. By the actual experience of a large number of cases so operated on, in none of which has there been yet any trace of recurrent mobility, though some have been done for more than five years; and 2ndly, because I had an opportunity of examining in one case, by dissection, the results of my fixation operation one month after it had been performed.

This occurred in the case of the young lady suffering from hæmaturia, to whose case I have briefly referred. In her case I first fixed the kidney, in the hope of thereby arresting the hæmorrhage.

One month afterwards I exposed the same kidney through the track of the old incision, and found it firmly and almost rigidly imbedded in a mass of dense fibrous tissue. So firmly was it fixed that I almost despaired of removing it through

the lumbar incision alone; but after great and anxious labour I succeeded in doing so. Surely such a fact as this, which can be corroborated by Sir F. Cruise, Dr. Lennon, and Dr. Lane Joynt, who were witnesses of the operation, is testimony that cannot be questioned as to the efficiency of the method.

The last point to which I will ask your attention is the question as to what is the best method of approaching the kidney. Some time ago, in a former contribution, I stated that, in my opinion, the lumbar route was, in the great majority of cases, the best to adopt when exposing the kidney either for examination, fixation, or removal. Since then my experience has become larger, and I am, I trust, neither too old to learn nor too conceited to make honest confession of error. During the last twelve months I have operated on a considerable number of kidney cases, and I have found it necessary to modify my original procedure. Every practical operator—and to them only do I appeal—knows well that the facility with which the kidney can be exposed through a lumbar wound varies to an extraordinary extent. In some cases it is exposed with the greatest ease, in others with great difficulty, in a few it is practically impossible without great danger of injury to the renal vessels. This difference depends on a variety of causes, some of which can be foretold before operation, some cannot. Amongst the former may be enumerated the size of the ilio-costal space, the obliquity of the last rib, the size of the kidney itself, and the thickness of the parietal wall.

Amongst the latter are two very important ones that no care or deliberation can determine beforehand, and they are the length and elasticity of the renal vessels, and the height of the cupola of the diaphragm into which the slippery kidney has a most annoying tendency to disappear. With a high arch to the diaphragm, and a short rigid pedicle to the kidney, the lumbar operation becomes prolonged, difficult, and therefore dangerous. In one such case I spent over an hour after the kidney was exposed through a large lumbar wound before I succeeded in removing a stone. Since then I have adopted the following modification of the method:—The usual lumbar incision is made, and the kidney examined

with the finger. If the kidney is easily reached and delivered through the wound, no further incision is made; but if there is the least difficulty or delay in so doing, I at once make an incision along the margins of the ribs, joining the lumbar incision at an obtuse angle. The combined incision is often eight or nine inches in length, and looks rather alarming to onlookers. The peritoneum is not opened, however, but is stripped from the wall of the abdomen. An assistant now with broad retractors separates the sides, boldly lifting up the lower ribs as he does so.

The result is that the kidney is now accessible to a degree unequalled by any other method, and it can be lifted out, palpated, explored, or removed with a facility that is surprising. It may be asked, Is such a huge incision necessary or advisable, and will not a ventral hernia be the inevitable result? To the latter I would reply that a wound through the thick muscular wall, properly united, is never the seat of a ventral hernia. To the former I would point out that the disadvantage of a large incision is very slight; but the advantages in rapidity, ease, and thoroughness of the operation cannot be measured by any standard we possess.

Since the introduction of anæsthetics, rapidity of operation has lost the pre-eminence formerly attached to it; and some few years ago men even prided themselves upon the leisurely coolness with which they operated. Recent researches have shown that there is an undoubted correlation between rapidity of operation and freedom from sepsis.

It has been proved experimentally that the operator's hands, carefully sterilised at first, become, at the end of a prolonged operation, rich in micro-organisms carried up from the depths of the glands in the skin by the sweat and sebaceous secretions. Every time such hands touch a cut surface a fresh culture is made, and the danger of septic infection increases with every moment of delay, and with every effort that causes the surgeon to perspire. Formerly when a patient of mine died twenty-four or thirty-six hours after operation I attributed it to shock, unavoidable and inevitable. As I grow older I believe less in shock. In the absence of severe hæmorrhage, death from so-called shock is due to acute sepsis.

More especially is this the case in kidney operations. Think of what we have to deal with in such cases. One or both kidneys are diseased, otherwise operation would not be contemplated. In sepsis, the ptomaïn products are largely removed through the urine.

Any addition to their normal work may throw a strain on the kidneys more than they can bear, and the patient, already enfeebled, rapidly succumbs. The large incision, therefore, by making the operation more rapid and less laborious, removes the most potent factor in the production of so-called shock, or, as I prefer to call it, fatally acute sepsis.

ART. VII.—*Dublin Fever.*[a] By HENRY FITZGIBBON, M.D., Ex-President R.C.S.I.

IN the year 1892 I made a communication to the Dublin Biological Club on the influenza epidemic of 1890, 1891, and 1892, based upon my experience of over 180 cases of that disease, which had come under my observation mainly from among the Post Office officials, who are under my medical charge in Dublin.

I then divided these cases into three classes—

Simple influenza,
Pulmonary influenza, and
Enteric influenza.

I soon afterwards found that Dr. Auchinleck, of Dublin, had made a very similar classification of the cases which had come under his observation during the same epidemic as follows:—

Catarrhal influenza,
Pulmonary influenza, and
Typhoid influenza.

The first of these consisted of malaise, headache, sneezing, cough and bronchorrhœa, accompanied by slight transitory fever, and constituted what was known by the name of influenza before the term was applied to the very formidable disease which within the last decade has become an endemic and epidemic zymotic fever in our city.

[a] A communication read at the Dublin Biological Club on Jan. 17, 1900.

The second class is only a severer form of the first, complicated by bronchitis or broncho-pneumonia, and a somewhat more persistent rise of temperature.

It is with the third class of cases that I have specially to deal in this communication. In these the attack is ushered in by a feeling of chilliness, languor, pains in the loins and limbs, and a dull frontal headache; in a few hours the headache becomes intense, prostration complete, with a rapid, bounding pulse, and a temperature from 104° to 106°; the tongue is soft, flabby, and tremulous, thickly coated with a pale yellow or white slime, sometimes swollen and painful, with prominent red papillæ round the margin, and frequently more or less pharyngitis, and sore throat, very suggestive of scarlatina. The urine becomes febrile and high-coloured at this period, and the bowels are always constipated, the patient complaining of flatulence, abdominal distention with intestinal uneasiness. He is sleepless, often delirious, and may have hallucinations as vivid as those of *delirium tremens*, or he may even develop temporary delusional mania.

This condition of intense febrile disturbance usually subsides as rapidly as it sets in, and the temperature may fall in 24 or 48 hours to some point far below normal, the thermometer often registering below 96° F.

This subsidence of the fever is, however, not coincident with any general improvement; the headache may be less acute, but it still remains persistent. The tongue remains flabby, white and tremulous, the abdomen distended and uneasy; there is complete loss of appetite, the pulse becomes weak and shabby, sometimes very slow,[a] and in some instances rapid, irritable, and irregular; a condition of great nervous prostration ensues, always associated with insomnia, often accompanied by extraordinarily vivid hallucinations, a condition closely resembling the neurasthenia of chronic alcoholism.

A train of gastro-enteric symptoms difficult to distinguish from those of typhoid fever,[b] but without the characteristic temperature and diarrhœa of that disease, continues,

[a] In one case it fell to 35 in the minute in a gentleman aged only forty-eight.

[b] Dr. Walter Smith observed that in some instances it is impossible, without applying Widal's test, to distinguish this disease from typhoid fever.

together with the nervous depression and loss of vital energy, for an uncertain period, which varies according to the severity of the initial fever and the natural constitutional vigour and recuperative power of the individual attacked. Even in persons of sound constitutions, naturally vigorous and physically strong, complete recovery from this fever is often slow, owing to the persistence of a subacute gastro-enteritis, or of chronic catarrh of the mucous membranes of the whole alimentary canal, which entails malnutrition and wasting as long as it lasts. During this period of consecutive cachexia the patient is an easy victim to tuberculosis, pneumonia, or typhoid fever if exposed to infection. He is liable to develop a peculiar form of asthenic, and sometimes apyretic, pneumonia as a not uncommonly fatal sequel of this fever.

For the past five years I have been more and more impressed by the similarity of severe cases of this class of so-called influenza to the malarial fever with which I was familiar under the name of Chagres fever, on the coast of the Caribbean Sea, when as a young man I served in the West Indian mercantile service from 1867 to 1869. This disease was well known to be the outcome of the malarial vapours emanating from the decaying vegetable matter fermenting and rotting in the swamps and lagoons which lie along the shores of that tideless sea.

The close resemblance of the disease now so prevalent and fatal in Dublin and its suburbs to this tropical fever suggested to me to look for some similar source as its origin to that which exists along the Mosquito coast. We have not far to seek!

The enclosed space between the railway viaduct at Clontarf and Ballybough-bridge is one factor alone of this malarial fever, as potent as any of the lagoons from Venezuela to Nicaragua; but there are other more potent factors to be found in the accumulation of decaying vegetable matter, ashpit refuse, and filth in the Corporation depots in Stanley-street, Marrowbone-lane, Hanover-quay, and the numerous tipping stations round the city, such as those at Island-bridge, Inchicore, and between the East Wall and Leinster-avenue. The abominable smell and the malarial vapours of these foci of fever pervade not only

their immediate neighbourhoods, but the whole city in whatever direction the wind happens to blow.

Perhaps the most potent factor of all is that which is now almost impossible to remove—namely, the deposit of ashpit refuse and other rubbish containing vegetable matter and filth as filling stuff for sites which have been, and are daily being, utilised by jerry-builders and speculators, who are permitted to run up attractive-looking and cheap houses, without any restriction, upon these unsanitary sites.

The Corporation of Dublin is not singular in its indifference to this manner of creating new building sites. Belfast has also been the victim of this malaria and other dirt diseases, and in an article which appeared in the *Northern Whig* of 28th May, 1898, the action of the authorities of that city was compared to that of the brush turkey, an interesting Australian bird of the buzzard species, which, being too lazy to hatch its eggs like other birds, creates a hot bed by the accumulation of all kinds of fermentable filth into a heap, which soon becomes hot by fermentation. It lays its eggs upon this bed of abomination, and enjoys itself in idle speculation until the period of incubation is accomplished, often to be disappointed by finding that the development of heat has been either insufficient or excessive, and that the whole clutch is lost. Many of the modern houses in our suburbs have been built upon, and are surrounded by, veritable brush turkeys' nests.

The diseases originating in these dwellings, and the fevers arising from the vapours of Ballybough and Clontarf slobs, the Corporation refuse depots and tipping stations in and around the city, are the actual cause of the abnormal and steadily-increasing high rate of sickness and death in Dublin, rather than a defective drainage system. Although there is much room for improvement in it, the typhoid fever attributable to this source is a very minor factor of our death-roll as compared with the malarial type of enteric influenza and its sequelæ which I have described, and which may as justly be called Dublin fever as the fevers of Chagres, Malta, or Gibraltar derive their names from the places the unsanitary conditions of which produce them.

PART II.

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

Raynaud's Disease (Local Syncope, Local Asphyxia, Symmetrical Gangrene): its History, Causes, Symptoms, Morbid Relations, Pathology, and Treatment. By Thomas Kirkpatrick Monro, M.A., M.D. Glasgow: James MacLehose & Sons. 1899. Pp. 251.

This able essay brings together all the knowledge we at present possess on the subject of the interesting disease of which it treats. It is based, the author tells us, on all published cases to which he had access, and on various cases which have come under his own observation. It commences with a brief biography of Maurice Raynaud; and a facsimile of the title page of the original thesis, with a dedication from Raynaud to Archambault dated 17 Mai, 1862, appears as a frontispiece to the volume. A short chapter follows on the anatomy and physiology of the vaso-motor nerves, and then some statistics of Raynaud's disease are given. It is a very rare disease; since it has been recognised, about one case in three thousand admissions to the medical wards of the Glasgow Infirmary represents its frequency; while in the returns of skin diseases for 1894, given in the Transactions of the American Dermatological Association, only two examples of Raynaud's disease appear out of a total of 24,321 cases, or less than 1 in 12,000.

In a chapter on terminology the objections are noticed which may be urged against the many names that have been applied to the condition, such as local asphyxia, local syncope, symmetrical gangrene, &c., and it is concluded that Raynaud's disease is the best name to use.

A very interesting chapter on the history of the disease follows, in which the principal cases, from that of Lachmund in 1676 to Dr. Barlow's writings in 1883, are enumerated.

In the chapter on ætiology attention is called to the large

proportion of cases recorded by British writers—viz., 62 per cent.—and if to these those given by Australian and American writers are added, the percentage runs to 81. It is shown that there is a decided proclivity to the disease manifested by the female sex. In men the average age at the onset of the disease is 30·9, in women 27·9, while other ages are by no means exempt. In nearly 8 per cent. of the cases some other member of the patient's family has been similarly affected. Those engaged in occupations which entail exposure to cold are most liable to suffer, and the disease is more apt to occur in the winter than in the summer months, although predisposed persons may be attacked in summer if they are exposed to cold, as by bathing the hands in cold water. Mental emotion has appeared in some instances to induce an attack, and there is a great deal of evidence pointing to a relation between Raynaud's disease and malarial poisoning. The connection which has been supposed to exist between sexual disorder in females and Raynaud's disease does not appear to be very conclusively established. It is scarcely necessary to say that the disease has been attributed to influenza and to gout.

In the three following chapters the three great symptoms of Raynaud's disease are dealt with—namely, local syncope, when the parts (generally the fingers) are white, cold and dead; local asphyxia, when there is some degree of cyanosis; and symmetrical gangrene, when the parts whose circulation has suffered undergo necrosis to a greater or less extent.

In local asphyxia the colour of the part may be bluish-white, dusky blue, or black. The colour fades on pressure, and only slowly returns when the compression is removed. The parts most commonly affected are the fingers or toes, ears and nose; less commonly the lips, cheeks, chin, tongue, and any part of the limbs or trunk, and there is great variety in the distribution of the affection and in the manner in which one part becomes involved after another. The distribution is generally roughly symmetrical. The affected parts are cold, and there may be numbness only, or tingling, or pain of various degrees of severity. The mode of onset of the attack is variable, and its duration may last from a few minutes to several days.

"While local syncope is met with in 50 per cent., and local

asphyxia in 94 per cent., necrosis of tissue, either slight or serious, occurs in 68 per cent. of cases of Raynaud's disease." The gangrene is usually of the dry variety, may or may not be preceded by ulceration, varies greatly in extent, and is sometimes painless, at other times the cause of much suffering.

Raynaud's disease never causes death, and seldom shortens life. It may sometimes consist of only one attack, while often it is impossible to define its duration. As to its relation with other diseases, it sometimes follows acute illnesses. There seems to be some relationship with paroxysmal hæmoglobinuria and with scleroderma.

As regards the pathology of the disease, Raynaud recognised three factors:—(1) Over-excitability of the vaso-motor centres, (2) stimulation of these centres by poisons in the blood, and (3) stimulation of these centres reflexly by agents acting on the periphery. It has been supposed by some writers that these are not sufficient, but that there is peripheral neuritis also. Cases have, however, been examined in which no neuritis was found, and in many cases of neuritis the phenomena of Raynaud's disease were not present.

The diagnosis is not always easy. Besides the symmetrical local syncope, asphyxia, and gangrene, one must look for the paroxysmal character of the two first symptoms.

The treatment is general and local—avoidance of exposure, general hygienic treatment, opium, and electricity to the spinal cord. "The local treatment may be summed up as aiming at—(1) Protecting the affected or threatened part from loss of heat; (2) stimulating the local circulation; (3) relieving pain in the part; and (4) where necessary promoting the removal of dead tissue by surgical means or otherwise so as to leave the surviving tissue in the best possible condition."

It will be seen that this monograph deals with the subject thoroughly, and brings our information on everything connected with it completely up to date. It is written in a clear, eminently readable style, which, together with its other excellences, cannot fail to make it popular. A very complete bibliography is given—twenty-one theses arranged in chronological order, and the titles of 206 books and papers arranged alphabetically under the authors' names. A good index concludes the volume.

A System of Medicine by Many Writers. Edited by THOMAS CLIFFORD ALLBUTT, M.A., M.D., LL.D., D.Sc., F.R.C.P., F.R.S., F.L.S., F.S.A.; Regius Professor of Physic in the University of Cambridge; Fellow of Gonville and Caius College; Hon. Fellow, Royal College of Physicians of Ireland. Volume VIII. London: Macmillan & Co. 1899. 8vo. Pp. 998.

WITH this volume the accomplished editor brings to a successful close his labours in connection with the "System of Medicine" which is now everywhere known by his name.

Diseases of the Nervous System are continued from the seventh volume. Mental Diseases follow, but the largest section of the volume is taken up with Diseases of the Skin.

While all the articles in the first division of the volume are of interest, those on "Neurasthenia" by the editor and Professor Horsley respectively, appear to us to be pre-eminently so. No reader can rise from a careful study of Dr. Clifford Allbutt's masterly description of neurasthenia in general without feeling that the disease, affection, or state so-called is indeed existent. The author gracefully admits "that to Beard of New York we owe the first complete and accurate description of neurasthenia as a symptom group." But in no work on Medicine with which we are acquainted is there an abler or clearer account of the state than that given by the Regius Professor of Physic in the University of Cambridge. Dr. Allbutt reminds us that a brief summary of his own opinions on a part of the subject—namely, "traumatic neurasthenia"—was contained in the Goulstonian Lectures for 1884. During his residence at Leeds his attention was first drawn to the subject by the enormous number of railway accidents which at that time, before the introduction of interlocking points and signals, were wont to occur in the neighbourhood of Leeds, upon which city no less than six principal railway companies converge. Many cases arising from these accidents came to trial at each assize, and for every claim which reached a jury two at least were settled privately, in great part on medical evidence. In all these and like cases Dr. Allbutt and his medical colleagues insisted, almost from the first, upon consultations

between the medical men called for both sides. Dr. Allbutt proposed at a meeting of the British Medical Association a formal resolution enjoining such consultations, which was unanimously carried, and which Mr. Victor Horsley quotes with warm approval at the end of his excellent article on "Traumatic Neurasthenia."

Dr. Allbutt discusses the general subject under the headings cerebral, spinal, cardiac and vasomotor, gastro-intestinal, and sexual neurasthenia. He is partial to the use of the word "obsession" in the sense of an agonising mental impression. At page 148 the Americanism "centrifuged" is employed, and at page 153 we have the inaccurate spelling "syphonage" for "siphonage." These, however, are but trifling flaws in a scholarly article.

For help in the editing of the section of this volume which is devoted to Mental Diseases, the editor acknowledges his indebtedness to Dr. Savage, of Guy's Hospital. The topics discussed are—dull, delicate and nervous children, night terrors in children, idiocy and imbecility, vice, crime and insanity, the insanity of phthisis, the epochal insanities, toxic insanities, insanity and surgical operations, alcoholic insanity, insanity and epilepsy, acute delirium, mania, melancholia and hypochondriasis, mental stupor, recurrent insanity, systematised delusional insanity, states of mental weakness, general treatment of the insanities, English law and practice of lunacy, criminal lunacy in England. This is a comprehensive list and fairly represents the subject. Among the writers are many of the most distinguished alienists of the United Kingdom, Ireland being represented—and well represented—by Dr. Conolly Norman in an article on Systematised Delusional Insanity.

The section on Diseases of the Skin has been edited "with the kind help of Dr. Payne," Senior Physician and Lecturer on Medicine, St. Thomas's Hospital. The contents of this section are arranged under the following headings:—Superficial diffuse inflammations, deep diffuse inflammations, discrete inflammations, hypertrophic and atrophic conditions, affections of the pigmentary system, cutaneous hæmorrhages, conditions of necrosis, affections of the sweat-glands, of the sebaceous glands of the hair, diseases of the nails, tuberculous

diseases, the eruptions of syphilis (syphilodermia), new growths of the skin, parasitic diseases of the skin, and diseases of uncertain classification. From this enumeration it will be seen that the subject has received the attention to which its importance entitles it—in fact, in these 480 pages we possess a complete, modern and manysided treatise on skin diseases, written not by one authority, but by a galaxy of talent in the domain of dermatology. With regret we notice that no Irishman (if we except Dr. Phineas S. Abraham) appears in the list of authors.

The volume closes with an Appendix on Malarial Fever, written by Dr. Patrick Manson. This supplements Professor Osler's article on "Malarial Fever" which appeared in Volume II., p. 721, and gives a full and satisfactory account of the recent discoveries made by Major Ross and other investigators in the life-history of the parasite of malaria.

One grateful task remains for us. It is heartily to congratulate Dr. Clifford Allbutt on the happy conclusion of his editorial labours, which have produced a System of Medicine classical alike in its conception, its design, and its execution.

The Cerebro-Spinal Fluid: its Spontaneous Escape from the Nose. By St. Clair Thomson, M.D. London, Paris, New York and Melbourne: Cassell & Co. 1899. Pp. 140.

About two and a half years ago the author was consulted by a young woman for a continuous discharge of watery fluid from the left nostril. "This produced no other symptom than the mechanical one of inconvenience. The flow was at first intermittent in its appearance, but for more than three years it had been continuous both day and night with only four intermissions, one of these lasting for sixteen days, two lasting for twenty-eight days, and the other for two months. To all intents and purposes the patient remains in perfect health; indeed, as regards attacks of headache to which she had been subject, she is even better than she was before this flow commenced." The fluid was transparent and colourless, specific gravity 1005, was faintly alkaline, did not stiffen a

handkerchief moistened with it when it dried, contained no mucin, a trace only of proteid which was all globulin, contained a reducing substance which was soluble in water and alcohol but did not ferment, and crystallised similarily to the pyrocatechin contained in cerebro-spinal fluid, which it also resembled in its pungent taste. Professor Halliburton, who made the analyses, unhesitatingly stated it to be cerebro-spinal fluid. The amount discharged per diem was calculated at about 500 cc.

This apparently unique case led Dr. Thomson to search for others of the same kind, and he has succeeded in finding records of eight other cases which he believes to be certainly of the same nature as his own. Of these 9 cases, 5 were females, 4 males. Their ages varied from twenty to thirty-seven. There were cerebral symptoms in 8 cases, eye symptoms in 3. The discharge was from the left nostril in 5, from the right in 1, from both sides in 1, in 2 it was not mentioned. Intermissions to the flow occurred in 5, not mentioned in 3. The flow was continuous day and night in 4, only by day in 1, not mentioned in 4. In none of the cases was there complete disappearance of the flow. Death occurred in 4 cases. In 2 there was a *post-mortem* examination. The first showed swelling of the pituitary body and of the chiasma nervorum opticorum, empyema of the sphenoidal sinuses and of the left maxillary antrum, and arachnitis purulenta. This case had been the subject of surgical exploration. The second showed that the escape of cerebro-spinal fluid occurred through a hardly perceptible hole beside the apophysis crista galli.

Twelve other cases are collected in which the discharge was probably cerebro-spinal fluid, but in which the certainty is not so great as in the first series, and eight further cases in which it is possible that the nature was the same.

The diagnosis of these cases rests mainly on the chemical composition of the fluid, the absence of mucin, the very small quantity of proteid, and the presence of the reducing non-fermentable substance, probably pyrocatechin or some closely allied substance.

There appears to be no danger of septic infection of the meninges, as the fluid is free from germs, and the author has

shown that the nasal cavities are normally aseptic. He therefore warns against any exploration or antiseptic medication.

In a second part of the volume Dr. Thomson gives some chemical and physiological experiments on the human cerebro-spinal fluid. It was found in his case that the morning fluid was somewhat richer in solids—especially organic solids—than the evening. This is in accordance with the observations of Cavazzani on dogs. When the fluid from the nose was injected into the blood-vessels of dogs, it caused no alteration of blood pressure or other symptoms. All these circumstances which are supposed to raise the pressure in the cerebral capillaries, such as compression of the abdomen, the horizontal posture, straining with closed glottis, were found to increase the flow from the nose, thus giving much support to the views of Leonard Hill on the physics of the cerebral circulation.

Incompatibility and some of its Lessons. By WALTER G. SMITH, M.D.; Ex-President Royal College of Physicians, Ireland; Physician to His Excellency the Lord Lieutenant; King's Professor of Materia Medica and Pharmacy, School of Physic, T.C.D. Reprint from *The Practitioner* for October, November, and December, 1899. 8vo. Pp. 36.

PROBABLY there is not in the Three Kingdoms a more competent authority on the important subject of incompatibility than the accomplished Professor of Materia Medica and Pharmacy in the School of Physic in Ireland. To a sound practical knowledge of modern chemistry and chemical physics Dr. Walter Smith adds a life-long and far-reaching acquaintance with the more immediate subjects of his Chair. Hence he writes with great authority, and his views on incompatibility may be received as conclusive and, indeed, incontrovertible.

The treatise (for so it may appropriately be called) is divided into two parts.

The first part is devoted to general considerations, and opens with a lament over the almost lost art of prescribing. The author points out that "apart from stupid and sometimes ludicrous mistakes" (of which he subsequently gives

many appalling examples) "serious inconveniences, dangerous accidents, and even loss of life have been the penalty of contravening simple and fundamental principles."

Having alluded to the two broad subdivisions of theoretical chemistry—namely, *Chemical Statics* and *Chemical Dynamics*, Dr. Smith invites attention to certain topics in relation to the latter—such as the universality of molecular motion, double decomposition, and reversible chemical reactions.

The second part, which constitutes two-thirds of the whole paper, is devoted to the special subject of incompatibility, which Dr. Smith defines as "any unintentional change which notably interferes with the elegance, usefulness, or safety of a prescription." He points out that so-called therapeutical incompatibility is not included in this definition. Nor is pharmaceutical or physical incompatibility, such as errors of solubility, precipitation of resinous or oily solutions by the addition of water, choice of pill excipients, and such like matters. His observations deal with the *chemical* aspects of prescribing, and he introduces them with the excellent primary rule—"Have as little chemical action as is possible take place among the ingredients of a prescription, unless such is clearly ordered or intended."

The classes of incompatibilities are grouped under two headings, viz:—

1. Homogeneous systems—*i.e.*, unattended with any visible *change of form*. There may be colour alteration.

2. Heterogeneous systems—*i.e.*, attended with a visible *change of form*, viz., the production of either a gas (or volatile substance) or a precipitate.

We advise every prescriber and every dispenser as well to "read, mark, learn and inwardly digest" Dr. Smith's formidable indictment against slipshod and ignorant prescribing.

The Edinburgh Medical Journal. Edited by G. A. Gibson, M.D., F.R.C.P. Ed. New Series. Vol. VI. Edinburgh and London: Young J. Pentland. 1899. 8vo. Pp. 592 + xxxvi.

Dr. George A. Gibson continues to discharge his editorial duties with conspicuous ability and well-deserved success.

In the sixth volume of the new series of the old-established *Edinburgh Medical Journal,* the illustrations are of the highest character and the letterpress is clear and neat. There are no less than 39 original articles, many of them on subjects of the greatest medical and general interest. Among them are two important papers on typhus fever.

Drs. Harvey Littlejohn and Claude B. Ker continue their description of an outbreak of typhus which recently occurred in Edinburgh.

Drs. Andrew Balfour and Charles Porter, formerly assistant physicians to the City Hospital, Edinburgh, contribute a report on the bacteriology of typhus. They examined the blood in 43 cases of typhus. In 36 out of the 43 cases—that is, in about 88 per cent.—a diplococcus was found, which resembled in many ways that described by Dubief and Bruhl in 1893. The authors cannot, however, at present definitely state that this organism is an ætiological factor in the fever, though such, on further investigation, may prove to be the case.

Dr. Gibson describes a remarkable case of acromegaly in an unmarried woman aged 42 years. He also contributes part of a clinical lecture delivered in the Edinburgh Royal Infirmary on "Principles of Reflex Action."

These are merely samples of the material with which the volume is filled, and which fully sustain the reputation of the New Series of the *Edinburgh Medical Journal.*

An American Text-book of Diseases of the Eye, Ear, Nose, and Throat. Edited by G. E. de Schweinitz, M.D., and B. A. Randall, M.D. London: The Rebman Publishing Co., Ltd. Philadelphia, U.S.A.: W. B. Saunders. 1899. 4to. Pp. 1251.

This fine book, in two volumes, illustrated with 766 engravings, 59 of which are coloured, is one of the "American Text-book" Series.

In the portion of the work devoted to the eye, its embryology, anatomy, histology, physiology, diseases and injuries are discussed in 24 sections by 24 authors; its operative surgery in 7 sections, by as many authors;

while certain practical details in the examination for colour-blindness among railroad employés, &c., receive attention in an Appendix containing 5 sections.

In the portion of the work devoted to the ear, its anatomy physiology, diseases and injuries are discussed in 13 sections by 14 authors; while diseases of the nose and throat are described in 20 sections by 19 authors.

Certain novel features, not usually found in text-books, may be noted—special articles on the standards of form and colour vision required in railway service, the Röntgen ray in ophthalmic surgery, the practice of ophthalmic operations on animals' eyes, the most important micro-organisms having ætiological relationship in ocular disorders, &c.

By the "collaboration method" which has been employed in the manufacture of this book "the student gains the point of view of a number of teachers, reaping, in a measure, the same benefit as would be obtained by following courses of instruction under different teachers;" and in the arrangement of each author's subjects, though there is practically no overlapping, still the reader often gets a number of points of view of the same subject. "The effort to comprise within one volume studies of the eye, ear, nose, and throat might," as the editors remark in their preface, "challenge criticism in this day of highly differentiated specialties;" yet it has seemed to them (and we are disposed to agree with them in this view of the question) that the important co-relations of each of these branches can be best brought out by such juxtaposition. "Specialism," they remark, "has often been carried much too far in the exclusion of attention to the adjacent fields." The oculist cannot dispense with a fair working knowledge of affections of the nose and its accessory cavities; nor should the aurist have to learn at second hand the important teaching of the ophthalmoscope as to his cases.

The work is well got up, and very carefully edited, and is on the whole one of the best and most up-to-date of its kind. Errors of course it contains, and there are some omissions, and also opinions and descriptions with which we do not agree, but we can strongly recommend it on its merits. As a book for ready reference. where the seeker is

fairly sure easily to find the information he is looking for, we know of few to surpass that at present under consideration.

Heart Disease: with special reference to Prognosis and Treatment. By SIR WILLIAM H. BROADBENT, Bart., M.D. Lond., F.R.S., F.R.C.P., LL.D. Edin. and St. Andrew's; Physician Extraordinary to H. M. the Queen; Physician in Ordinary to H.R.H. the Prince of Wales; Consulting Physician to St. Mary's Hospital and the London Fever Hospital; late President of the Clinical, Medical, Neurological, and Harveian Societies; and JOHN F. H. BROADBENT, M.A., M.D. (Oxon.), M.R.C.P., Medical Registrar to St. Mary's Hospital. Third Edition. London: Baillière, Tindall & Cox. 1900. 8vo. Pp. 420.

IN December, 1897, we had the pleasure of favourably reviewing the first edition of this work (see Volume CIV., page 487). Our duty in regard to the third edition, which has been called for within the short space of but little more than two years, is merely to direct attention to the additions and improvements that have been made.

To avoid misconception, it is well to explain—as the authors do in their preface to the third edition—that the work does not aim at being a systematic and complete treatise. The authors rather have endeavoured to place before the reader a clinical picture of each disease, and to emphasise the points which are of chief importance in diagnosis and prognosis.

Sir William Broadbent again frankly acknowledges the great help he has received from his son, Dr. John F. Broadbent in revising and adding to the work. At the same time he accepts all responsibility as he has carefully perused all the new matter and made some additions. The "new matter," which the "senior partner" thus mentions, consists of chapters on acute affections of the heart, endocarditis, pericarditis, myocarditis, and aneurysm of the arch of the aorta. The chapters on inflammatory affections of the heart are entirely Dr. John Broadbent's work. The chapter on aneurysm has been arranged and compiled by him from Sir

William's notes and papers which have been published elsewhere. The magnitude of the additions may be estimated by the increased size of the volume, which now runs to 420 pages compared with 331 in the first edition. The new matter is included in four entirely new chapters—namely, Chapter II. on endocarditis, Chapter XX. on affections of the myocardium, Chapter XXIV. on diseases of the aorta, and Chapter XXV. on aneurysm of the arch of the aorta. In addition to these important subjects, Chapter XVII., on adherent pericardium, has been amplified so as to include an account of pericarditis and of suppurative pericarditis.

There is little to criticise adversely in these interesting chapters. In the section on infective endocarditis, however, a definition occurs to which we must take exception. We agree with the authors that the classification of cases of this serious condition, called by Dr. Dreschfeld "infective endocarditis," into septic, typhoid, cerebral, and cardiac, is certainly misleading and unsuitable. The authors properly protest against it. But we cannot agree with them when they state that the typhoid type is "so called *because in many respects it simulates enteric fever*, the symptoms are less pronounced, and the disease runs a somewhat more protracted course" (page 30). We have denoted by italics the part of the definition which we cannot accept. Surely the typhoid type of infective endocarditis is so called because it is accompanied by the symptoms of the so-called "typhoid" or "ataxic state"—the state of profound nervous and muscular prostration, seen most characteristically in *typhus* fever, and hence called *typhoid*, or typhus-like.

The subject of primary acute aortitis described in Chapter XXIV. is illustrated by a coloured frontispiece, drawn from a recent specimen, showing the presence of smooth, pinkish patches, termed by Bizot *plaques gelatiniformes* from their opalescent appearance.

The excellent account of aneurysm of the arch of the aorta given in Chapter XXV., which has been written by Dr. John Broadbent, is a really concise monograph on the subject, occupying some 43 pages of the book, and arranged under the headings—ætiology, morbid anatomy, relations of the arch of the aorta, physical signs and symptoms, aneurysm

of (1) the intrapericardial portion of the aorta, (2) the ascending aorta, (3) the transverse part of the arch, (4) the descending aorta; diagnosis, prognosis, and treatment. Under the last heading we are sorry to miss any allusion to the name of Joliffe Tufnell, though his methods are given with marked approval.

It affords us pleasure again to state that this work is one which adequately represents our existing knowledge of heart disease.

ACETYLENE GAS.

DR. BERNSTEIN, Baltimore (J.A.M.A.), recommends acetylene gas as a good illuminant for deep parts during operation.

ANTISTREPTOCOCCIC SERUM.

THE American Journal of Obstetrics for September, 1899, contains the report of a committee of the American Gynæcological Society, which was appointed to inquire into the value of Marmorek's antistreptococcic serum. Put shortly their opinion is as follows:— (1) Three hundred and fifty-two cases of puerperal infection have been treated by various observers by means of antistreptococcic serum with a mortality of 20·74 per cent. In cases in which the actual presence of streptococci was proved, the mortality was 33 per cent. (2) It does not appear that Marmorek's claim that his serum will cure streptococcic infection is substantiated by the results so far reported. (3) Experimental work tends to show that a serum which is obtained from a given streptococcus may protect an animal from that streptococcus, but may be quite inefficient against any other form of streptococcus. Accordingly the number of serums which may be required is limited only by the number of varieties of streptococci which may exist. (4) The experience of one of the members of the committee showed that antistreptococcic serum has no deleterious effect upon the patient, and so may be tried if desired. Nothing has been found in the clinical or experimental literature, or in the committee's experience, to indicate that its employment materially improves the general results in the treatment of streptococcus puerperal infection. The committee consisted of J. Whitridge Williams, William Pryor, Edward Reynolds, and Henry D. Fry.

PART III.

MEDICAL MISCELLANY.

Reports, Transactions, and Scientific Intelligence.

The Rôle of the Blood-Supply in Mental Pleasure and Pain.[a] By W. R. Dawson, M.D. (Dubl.), F.R.C.P.I.; Medical Superintendent of Farnham House Asylum, Finglas.

[Prefatory Note.—This Address being printed almost exactly as it was delivered, the statements made in it on controversial points are to be regarded merely as representing the views which at present seem to the author to be, upon the whole, the most probable of those now advanced. In such an address discussion of vexed questions is neither desirable nor, indeed, possible. The author has to thank Professors Flechsig, Schäfer and Bradbury, and Drs. Clouston and Whitwell, for permission to reproduce the illustrations from their works; and Messrs. Longmans, Green & Co., J. & A. Churchill, and the publishers of the *British Medical Journal*, for the facilities which they have afforded in obtaining blocks, &c.]

Mr. President and Gentlemen,

My first duty to-night is the pleasant one of thanking you for the honour you have conferred in electing me as your President. Exactly ten years have now elapsed since I last held office in the Dublin University Biological Association as its Treasurer, and during that intervening period I have noted with pleasure the vast advances which the Association was making in popularity and usefulness under the guidance of my able predecessors. To-night, as the result of this steady progress, and especially of the good work done in the past year, the Society stands higher than ever; but I propose that we shall not stop even here, and that if efforts of mine avail to assist you in forwarding the interests of the Association we shall have reached, if possible, even a better footing on the 28th November, 1900.

[a] Presidential Address delivered at the opening meeting of the 25th Session of the Dublin University Biological Association, Nov. 28th, 1899.

Gratifying, however, as your choice has been to me individually, I am inclined to see in it more than a personal compliment. This is the first occasion on which a member of my specialty has occupied the presidential chair, and I therefore take it to be one of the many indications that we alienists have at last assumed our proper place in the ranks of the medical profession. Time was, and not so long ago, when the asylum physician was regarded by his brethren, and to some extent, I am afraid, by himself, as a sort of cross between a jailer and a hotel-keeper, with rather less of the former and more of the latter element as civilisation advanced—a view, indeed, which still seems to hold ground with many of the lay public. No better was asked, because the class of diseases with which he had to deal were regarded as of too mysterious and transcendental a nature to be explicable by ordinary physical principles or amenable to ordinary methods of treatment, while, paradoxically, a very moderate amount of so-called common sense, with little or no special knowledge or training, was held to be an adequate equipment for dealing practically with the unlucky sufferers themselves. Now all this is changed; but the change is due far more to an alteration in our conception of insanity, to an altered point of view, than to any vast increase in our knowledge of its actual conditions. Instead of leaning to the old doctrine of demoniacal possession—in a more or less modified form, perhaps, but still essentially that—we have come to regard insanity as the disease of an organ, or rather, to speak more correctly, not as a disease at all, but as the mental manifestation of physical disorder, and have set ourselves to discover the pathological changes and processes underlying it. Thus so-called mental disease falls exactly into line with other physical diseases, and the physician who devotes himself to this most difficult branch of study ranks with the rest of his profession, instead of holding aloof as a member of a distinct class.

Although, however, this change is not directly due to increased knowledge, the vast amount of work which has been and is being done in elucidation of brain structure and function has alone rendered tenable the altered standpoint, which otherwise must have been based on mere assumption. Nearly all the facts upon which an intelligible working hypothesis of mind could be founded have been the product of comparatively recent times, many of them of the last ten or twelve years. But from this great mass of work three discoveries stand out as of paramount importance for the purposes of psychology, each of them associated more or less closely with a histological method. The latest of the great results attained by

Weigert's process is the research of Flechsig[1] on the structure of the central nervous system, research which affords the sanction of anatomy to certain of the theories of Hughlings Jackson on the one hand, and of the associationists on the other. By tracing the paths of sensation to the surface of the brain (work since confirmed in many

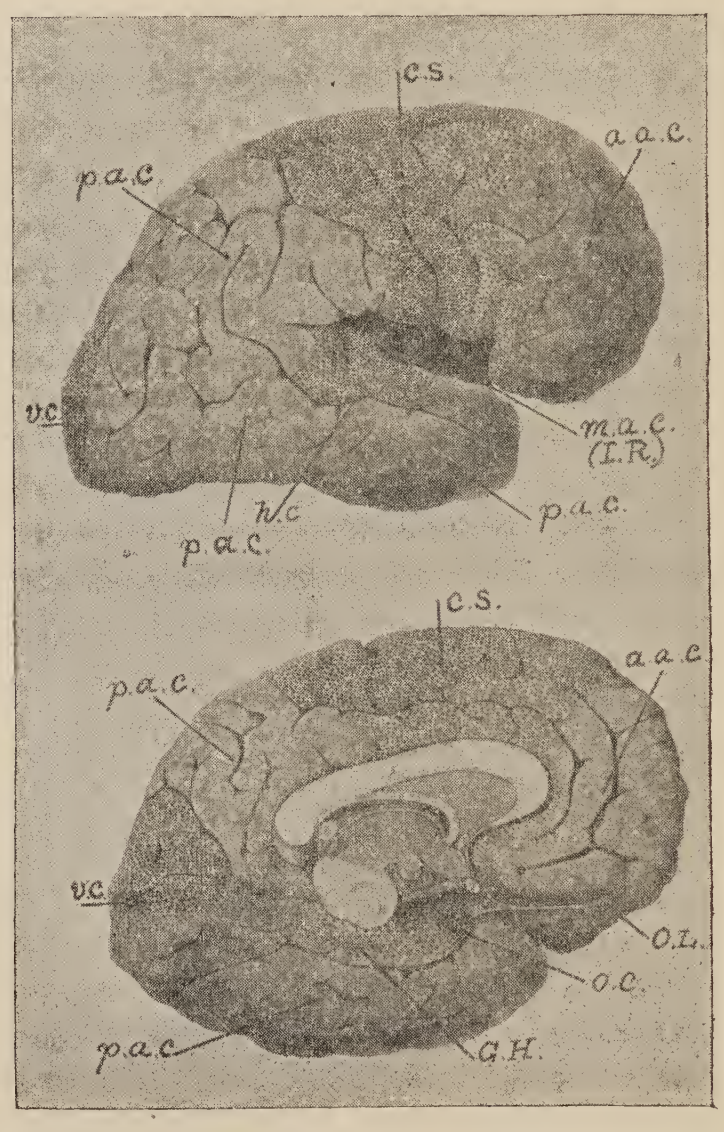


Fig 1.—*The Sensory and Association Centres of the Brain.* (After Flechsig.) [The dotted areas are the sensory centres.] *I.R.*, Island of Reil; *O.L.*, Olfactory Lobe; *G.H.*, Gyrus Hippocampi; *C.S.*, Centre for common sensation; *v.c.*, for vision; *h.c.*, for hearing; *o.c.*, for smell; *a.a.c.*, Anterior; *m.a.c.*, Middle; and *p.a.c.*, Posterior, Association Centres.

particulars by Drs. Ferrier and Aldren Turner[2]), he was led to the discovery that some two-thirds of the cortex is employed neither in receiving sensory impressions nor in sending motor impulses; and further investigation induced the conclusion that this large area

(which is distributed in three districts, the anterior, middle, and posterior association centres) has for its sole function the weaving into the complex tissue of thought of the infinite variety of sensations and memories supplied by the adjacent sensory centres (Fig. 1).

How this weaving, this association, comes to pass is rendered comprehensible by the elaboration of the doctrine of the neuron which has resulted from the metallic deposition method of Golgi. According to this doctrine, which seems likely to hold its ground in all essentials, the nervous system consists of an almost countless number of cells mostly provided with numerous outgrowths or processes, each of which cells with its processes constitutes an anatomically separate unit. The processes are of two kinds (Fig. 2).

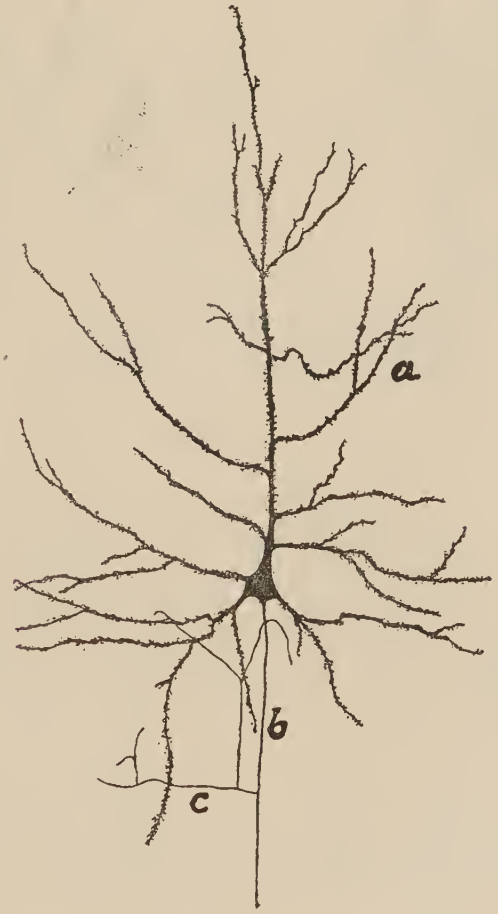


Fig. 2.—*Normal Cortical Nerve-cell* stained by Cox's modification of Golgi's method. (After Clouston.) *a*, Dendrites; *b*, Axis-cylinder Process; *c*, Branches of *b*.

The more numerous are those conducting impulses to the cell, which are the thicker and usually the shorter, are much-branched, and covered with little retractile projections called gemmules; they are known as dendrites. The other variety, of which each cell possesses

one, is the axis-cylinder process, which is finer, longer, and less-branched, is smooth, and conveys impulses from the cell. The ends of the axis-cylinder processes wander amongst the dendrites, with the gemmules of which, when expanded, they are in actual contact, so that impulses can pass from the one to the other (Fig. 3). During

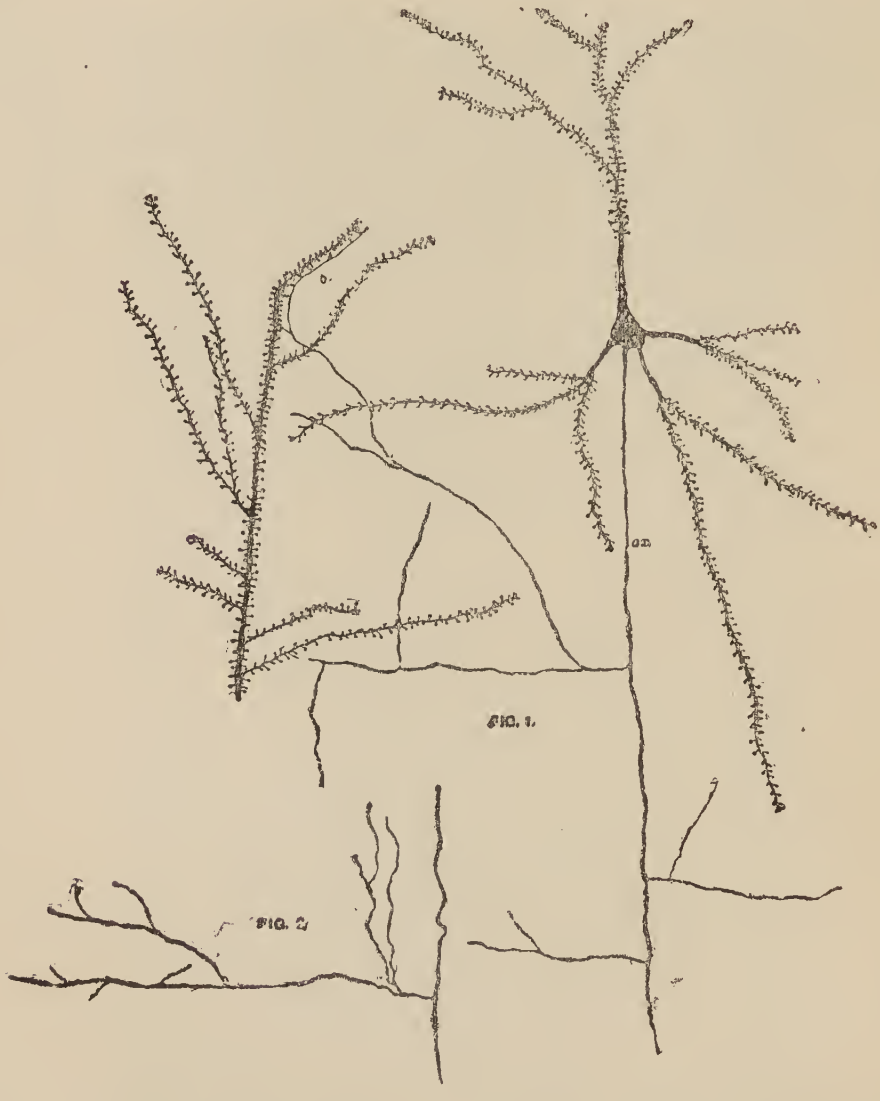


FIG. 3.—*Normal Nerve-cell*, showing contact of terminal portion of a branch of the axis-cylinder with dendrite of another cell. (After Berkley.)

mental activity, especially excitement, only some of the gemmules are so expanded (Fig. 4), and thus the nerve-current from the cell is directed along few lines, and is consequently more intense. During sleep they are all expanded (Fig. 5), thus producing a diffusion of the nerve-current with lowering of its intensity.[3] Each cell thus receives currents from many others, and communicates them at least to several, and when we are told by the latest investigator[4] that there are 9,200,000,000 cells in the human brain-cortex, it is

Fig. 4.—*Condition of Dendrites of Cortical Cells in Excitement.* Note retraction of gemmules. (After Lugaro.)

Fig. 5.—*Condition of Dendrites of Cortical Cells in Narcosis.* Note protrusion of gemmules. (After Lugaro.)

evident that the possible number of permutations and combinations is practically infinite. In disease of the nerve-cell both dendrites and axis-cylinder process may develop varicosities, and the former lose their gemmules, so that defect and confusion is caused in the systems of communication. These changes are known as varicose atrophy (Fig. 6), and are supposed to be accompanied by other changes in the interior of the cell, which are detected by a different method, that of Nissl.

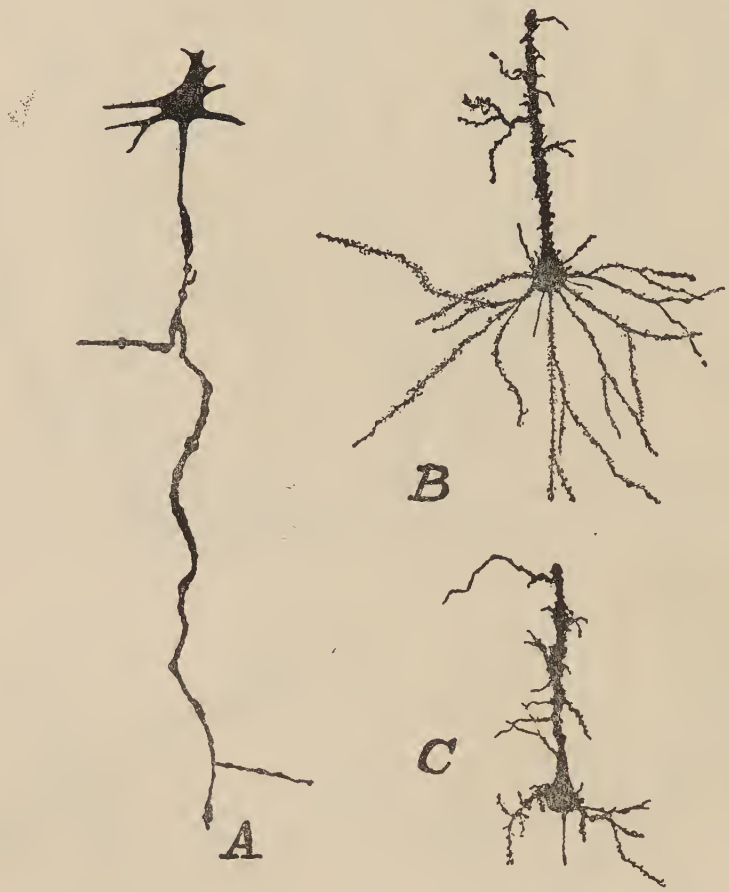


Fig. 6.—*Varicose Atrophy.* (After Clouston.) *A*, So-called "Varicose Hypertrophy" of Axis-cylinder Process; *B* and *C*, Varicose Atrophy of Dendrites. (Acute Mania.)

This last method has led to the acquisition of more definite ideas as to the internal structure of the nerve-cell, which, with its nucleus, is now thought to consist of two distinct but interlacing networks and a small quantity of fluid.[5] One network is composed of a number of irregularly-shaped bodies, which stain deeply with basic dyes and hence are called *chromatic* bodies (Fig. 7, *a*), connected together by fibrils which do not so stain. These bodies are found in all parts of the cell and nucleus except that part from which the

axis-cylinder process comes off, and they extend for some distance along the dendrites. The other, or *achromatic*, network does not stain with basic dyes, and, indeed, cannot be seen satisfactorily unless the chromatic bodies have been destroyed. Into it pass the fibrils from the dendrites, from it come off those of the axis-cylinder, and thus it forms the only connection between them. The chromatic bodies are held to subserve the nutrition of the cell, while the achromatic fibrils conduct the impulses from dendrite to axis-cylinder process, modified and probably strengthened in the transition.

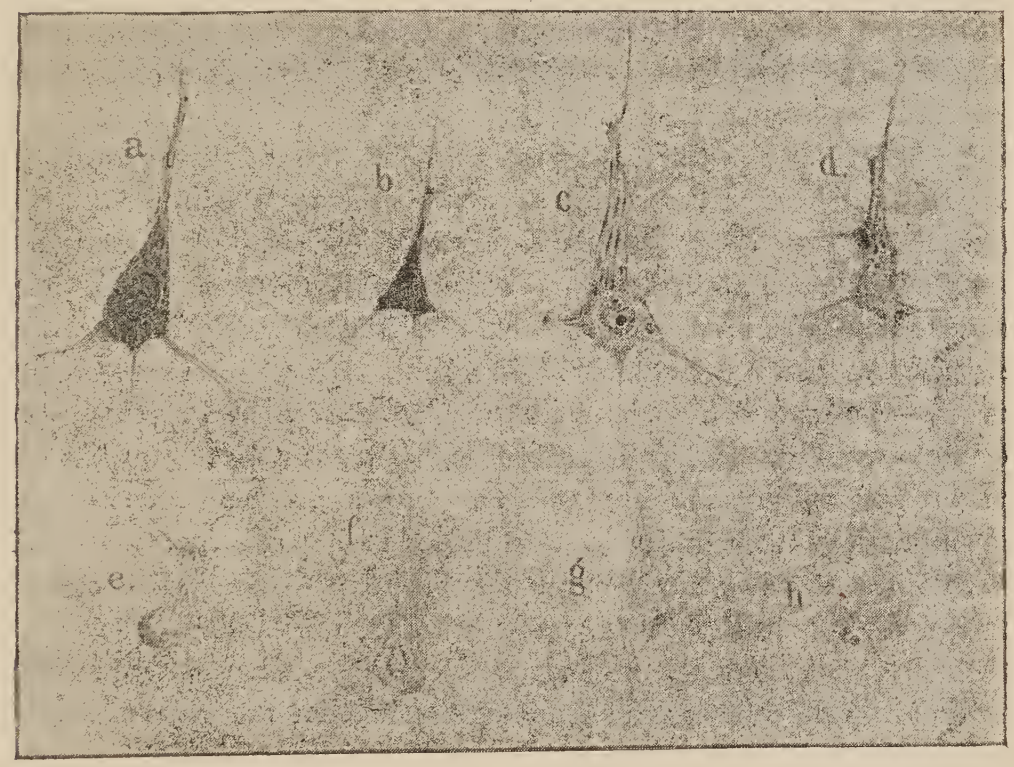


Fig. 7.—*To illustrate Chromatolysis.* (After Clouston.) *a*, Normal cortical nerve-cell, showing chromatic bodies; *b*, Normal cortical nerve-cell, showing slight *post-mortem* change; *c*, Early chromatolysis (Recurrent Mania); *d*, Advanced chromatolysis (do.); *e*, More advanced chromatolysis (do.); *f*, Advanced chromatolysis (Acute Delirious Mania); *g*, Advanced chromatolysis (Acute Melancholia); *h*, Advanced chromatolysis (General Paralysis).

When a cell is thrown into action, the nutritive material, at first, perhaps, slightly increased, is gradually used up, and when activity goes on to fatigue and exhaustion it disappears almost or altogether, so far as can be seen with the microscope. The changes (which are also caused by the action of various poisons, including those of bacteria

by elevation of temperature, by insomnia, starvation, anæmia, and many other influences, and are found in various forms of insanity, including acute mania and melancholia) are known by the name chromatolysis (Fig. 7, *c–h*). This may be acute or chronic, and is characterised by breaking up of the chromatic bodies into fine granules, which ultimately disappear altogether. The nucleus is affected later than the cell-body, and may be displaced. The achromatic network degenerates after chromatolysis has made some headway, and from this degeneration no recovery is possible, whereas alterations of the chromatic network are reparable.

The facts just detailed, which undoubtedly represent a great advance in our knowledge, and will lead to yet further advance, have furnished us with a more or less secure foundation upon which to construct an intelligible working hypothesis of mind. But it must be admitted that this superstructure is only a working hypothesis, that we have no real knowledge of the genesis of states of consciousness, and that the cocksure statements one sometimes sees of the mighty results of cerebral pathology are misleading and absurd. This being so, it may be asked, why should the study of psychoses from the material side be urged as superior to the old methods? We cannot prove—we never shall prove—the connection between matter and consciousness; we cannot even remotely conceive how it is that a mass of protoplasm is capable of thought. How are we then justified in assuming that brain is the basis of consciousness at all? Why may not the brain-processes be mere accidental concomitants of the processes of mind worked out independently of them in some transcendental essence, call it what you will? Or, again, may not the transcendental essence be the real operator, using the brain as a mere machine to put him *en rapport* with the material environment, just as brain may be said to use the muscular system? And in either case may it not be the transcendental essence which is at fault when the mind is at fault, and not the brain—the operator instead of, or as well as, the machine? To these, and all other like suggestions, we have one answer—viz., that to us, as practical physicians, they are beside the question, and, therefore, true or false, we simply disregard them. Our business is to cure disease of the body, and from this standpoint the only query of importance is:—Have we reasonable grounds for believing that mental processes rest so far on a physical basis that they can be affected by physical means? To this question there can be but one reply. We know that many men are rendered miserable by a few doses of potassium iodide; that most men can be made happy

for the time by a dose of alcohol; that opium and mescal eaters see visions and dream dreams; in short, that by the action of drugs alone we can produce melancholy, exaltation, excitement, delusions, mental weakness, impairment of the moral sense—in a word, every morbid mental state which can be included under the term insanity; and, therefore, for this and other reasons, I maintain that we *are* justified in the belief that morbid physical conditions underlie morbid mental action. It is on just such a working hypothesis that we regulate our lives, and for all practical purposes it is quite sufficient. For us, therefore, the subleties of abstract psychology at once sink into unimportance, and the clinical and pathological study of the diseases, whose outstanding symptoms are mental, becomes imperative. But, carried on as it has hitherto been, clinical study is now singularly unproductive, and, however important it may be for the individual in gaining acquaintance with his subject, I venture to think that until we have the means of checking and explaining clinical observations by pathology little addition is to be expected to the common stock of knowledge by this means alone. While, therefore, clinical work should not be neglected, especially when directed to physical symptoms, it is more immediately needful that attention should be seriously turned to the pathology of the nervous system in relation to insanity. In England and Scotland this has been practically recognised, and I trust that before long we may follow their good example by the establishment of a central laboratory for this special branch of pathological study. At all events let it be clearly understood that so-called mental disease is to be approached in the same manner, and to a large extent by the same methods, as all other diseases.

When we seek to apply ordinary pathological principles to the explanation of mental symptoms, we are met at the very start by a problem which still seems far from solution, but which will have to be solved if we are to gain any real knowledge of the material basis of insanity—the problem, namely, of the physical states which underlie mental pleasure and mental pain. The conditions themselves differ as widely as two things can, and that not only subjectively, but objectively; and this is seen with startling distinctness when they become morbidly accentuated. Take an acutely melancholic patient, with his pale, sunken face, heavy eyes, drooping lips, and dejected, listless attitude, all the expression of the terrible misery which sees

> "But dreadful time, dreadful eternity,
> No comfort anywhere."

—take such an one, and place him beside a case of simple mania. The

contrast enters into every detail. The face of the maniac is flushed, his eye is bright, his expression cheerful and elated, his attitude alert. He is in constant movement, and pours out an incessant stream of talk which is boastful, grandiose, and expressive of self-confidence and ambition. So striking a contrast could not fail to stimulate attempts at explanation, and amongst other theories it was strongly urged that the morbid depression known as melancholia must be due to lack of blood in the brain, while the morbid elation known as mania must be caused by excess of it. As there was no real proof, these theories have been abandoned; yet they probably contained some modicum of truth, and therefore, I think, it will be interesting and not uninstructive to consider the question afresh in the light of more recent knowledge.

The fact that mental life can be profoundly affected in all its functions by purely chemical means proves the important influence which the cerebral circulation must exert upon it, and accordingly we find the most elaborate arrangements for the supply of the cortical cells with blood. Each of the larger nerve-cells has lying close to it a loop of minute arteriole or capillary,[6] and it has even been asserted by one observer that at least some nerve-cells lie actually in a saccular dilatation of a capillary, the capillary, however, being so small that corpuscles are excluded, and the cell is surrounded by plasma only.[7] The cortical capillaries derive their supply from the small arteries which penetrate the cortex from the rich plexus lying in the pia-arachnoid, and this plexus again is fed by the three main branches of the circle of Willis, the greater part of the blood of which goes to the cortex. Of these branches the middle cerebral is not only the largest but is the direct continuation of the carotid artery, and therefore it not only conveys more blood, but blood at a higher pressure than the others. The branches into which it divides are also larger, yet the district supplied by it is certainly not proportionally more extensive. When we compare the areas fed by the cerebral arteries with the districts into which Flechsig has mapped the brain, we see that although there is no exact correspondence between any of them, the middle cerebral artery supplies a large part of the anterior and posterior, and the whole of the middle association centres, as well as a great portion of the centre for common sensation and all that for hearing, to say nothing of motor centres, including that for speech (Fig. 8). Hence we may conclude that the parts of the brain which have most to do with mental, and especially emotional, life are the most richly supplied with blood.

It has now been proved that both cortical and pial arterioles are

furnished with nerves,[8] so that it seems scarcely an assumption to suppose that they are controlled by vasomotor mechanism. But so far as concerns the gross cerebral blood-supply there is very little evidence of any such arrangement in action. The brain being to all intents and purposes incompressible and being enclosed in a rigid box, and the cerebro-spinal fluid small in quantity and restricted in movement, the actual amount of blood within the cranium varies but little under physiological conditions. How the brain is supplied therefore depends chiefly on the rate of flow through it, and this again on the relation of the general arterial to the venous pressure. Thus it is found that increased general arterial pressure from any cause merely produces increased blood-flow through the brain if the

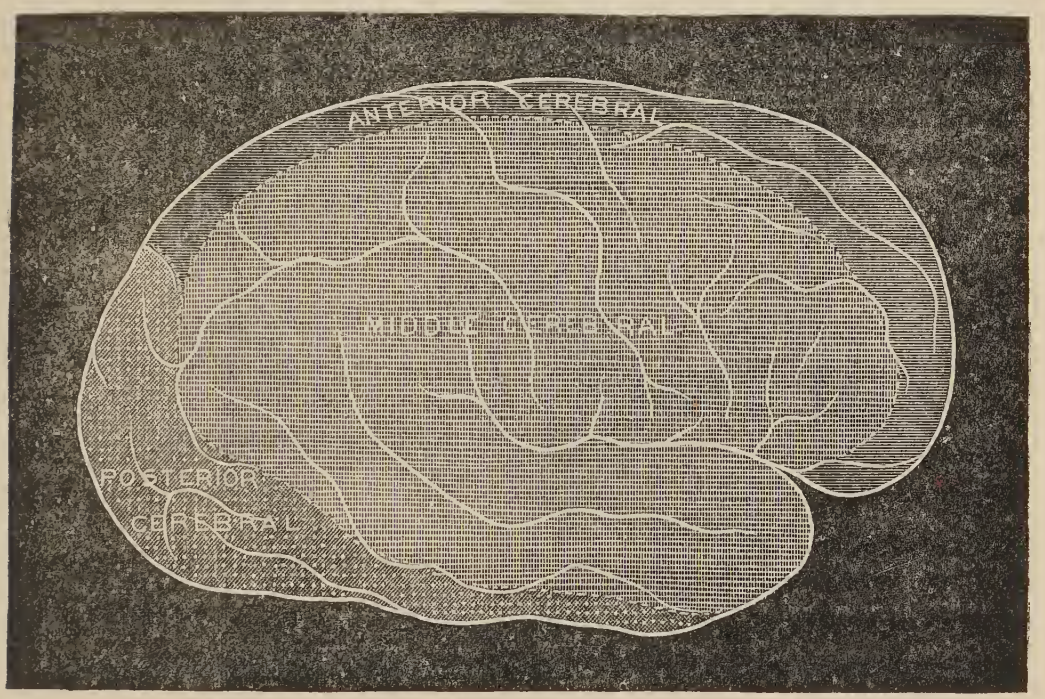


Fig. 8.—*Diagram showing Cortical Area of Brain supplied by Middle Cerebral Artery.* (Schäfer.) Compare with Fig. 1.

venous pressure is normal or low, and thus alone can arterial hyperæmia arise. On the other hand, fall of the general arterial pressure will cause diminished blood-flow, and so will any obstruction to the venous discharge. As the result of experiment, it seems, therefore, that the cerebral circulation as a whole lies for the most part at the mercy of the general vasomotor mechanism—that is, practically, of the mechanism controlling the splanchnic area[9] (Fig. 9). But there are one or two facts which would tend to show that the cerebral circulation may sometimes act independently, of which the most striking is the increase of outflow

produced by stimulation of the Rolandic area, without any corresponding change in the general blood-pressure; and whether this takes place to any extent or not, there is no reason why the blood-supply within the cranium should not vary locally, though we have as yet no reliable data on this point. An actual diminution in the

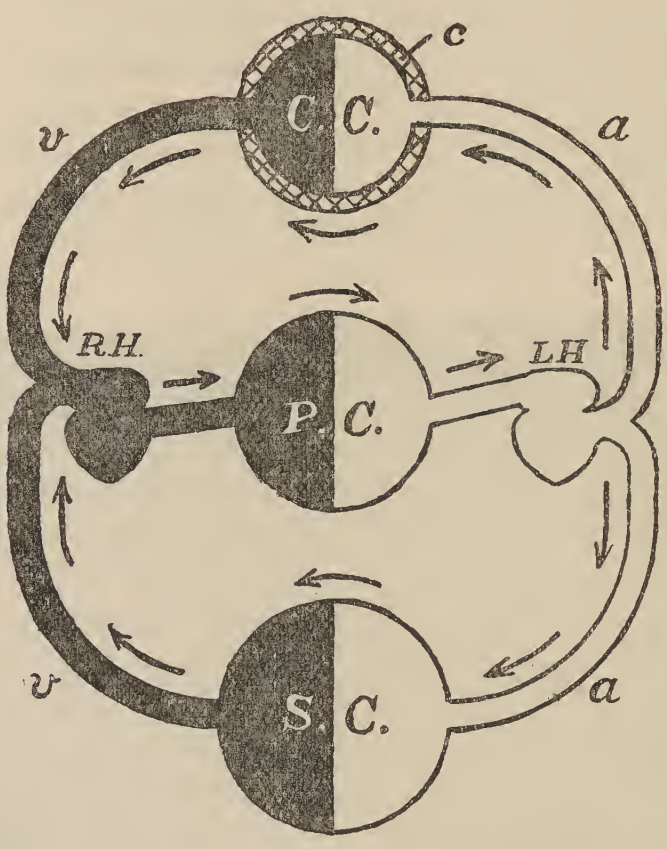


Fig. 9.—*Diagram to illustrate the Physics of the Cerebral Circulation as a whole.* *aa*, Arterial System (white); *vv*, Venous System (black); *C.C.*, Cerebral Circulation; *P.C.*, Pulmonary Circulation; *S.C.*, Systemic Circulation; *R.H.*, Right Heart; *L.H.*, Left Heart. All parts are supposed to be capable of expansion and contraction, except *C.C.*, which is enclosed in the rigid casing *c*, representing the skull. Hence it will be seen that the amount of blood in *C.C.* cannot alter unless a foreign body be introduced (tumour, &c.) or the capacity of *c* be lessened (syphilitic endarteritis, atheroma); but the amount of blood passing through *C.C.* will vary according to the relative pressures in the arterial and venous systems. Thus, any cause, such as weak heart, aortic valvular disease, or derivation of blood to *S.C.* (*i.e.*, virtually the splanchnic area), which reduces the pressure in the side *aa* will diminish the blood-flow in *C.C.*; and so also will increase of pressure in *vv* from mitral valvular disease or morbid obstruction (as in emphysema and chronic phthisis) of *P.C.* Most of these morbid states would act in both ways. Increase of pressure in *aa* (from over-action of the heart, vasomotor constriction of arteries, of splanchnic area, &c.), or diminished pressure in *vv*, would produce the opposite effect—*i.e.*, increased flow through *C.C.*

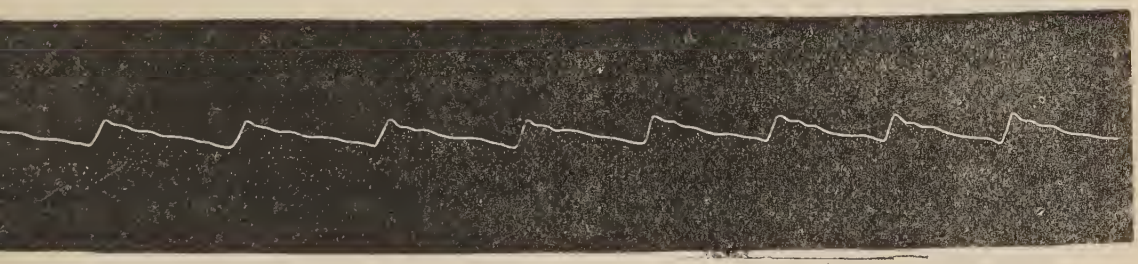
quantity of the intra-cranial blood is produced by such morbid conditions as intracranial tumours, which give rise to symptoms solely by the extreme but more or less localised anæmia which they cause; and lastly the brain shares in the effects of general anæmia, the cortical cells being, indeed, peculiarly sensitive to want of oxygen.

Having now to some extent cleared the ground by these preliminary considerations, we are in a position to attack the problem itself. Taking mental depression first, let us begin by asking what mental symptoms, if any, are associated with cerebral anæmia? If we glance over the morbid conditions which would seem to have a bearing on the question, we find that a certain group of mental phenomena gradually detaches itself as characteristic. In its most typical form it consists of a lethargic depression with reduction of intelligence, loss of social instincts, irritability, loss of memory and power of attention, and, above all, a weak suspiciousness, which may amount to actual delusion. For instance, we have it arising from malnutrition, as in cases of insanity due to over-lactation with insufficient food, nearly all of which are melancholic at some stage, and characteristically are depressed, suicidal or lethargic, and full of delusions of persecution and the like.[10] Phthisical persons, when affected mentally, exhibit the symptoms in very typical form; and cases of mental disease attributable to starvation, prolonged indigestion and the like, are usually melancholic. In actual blood disease, we find that insanity from chlorosis is mostly of a depressed type, that depression, lethargy, loss of memory and attention characterise the mental state in pernicious anæmia, and that the anæmia of early syphilis gives rise to melancholy and moroseness which in rare cases amount to actual insanity.[11] In the brain-anæmia caused by venous obstruction in cases of mitral valvular disease, we have the same group of symptoms, which are said to be aggravated by failure of compensation.[12] Mental affection in emphysema is usually melancholic, apparently for the same reason. Lastly, in the anæmia due to disease of cerebral vessels themselves, as in senile cases and cases of syphilitic endarteritis, and to some extent in that caused by brain-tumours,[10] the symptoms are again met with. Their occurrence in so many different forms of bodily disease, which have only the cerebral anæmia in common, cannot be a mere coincidence; and though they do not appear in all cases of these diseases, and are not the only forms of mental abnormality met with in them, still from their prevalence we are justified in regarding them as the typical mental symptoms of brain anæmia. This conclusion, moreover, has the

support of morbid anatomy, changes in the nerve-cells having been found to follow want of blood.[13] Thus ligature of vessels, causing local anæmia, gives rise to chromatolysis and varicose atrophy; and a slighter but more prolonged anæmia from repeated small hæmorrhages produced after a time the same changes, which have also been detected in chronic general anæmia arising from other causes. In poisoning with carbon monoxide,[14] which produces its effects solely by replacing the oxygen of the hæmoglobin, various degrees of chromatolysis were also found, more pronounced in the cortical cells than in those of the cord, from which, as well as from some of the clinical facts, it would appear that the phenomena are sometimes largely due to want of oxygen.

The above group of symptoms, although it would be classed as melancholia, is not the typical variety of that form of mental disease. Nevertheless, when we observe the physical concomitants of ordinary melancholia, we find some corroboration in the fact that a considerable proportion of the cases (50 per cent. or over) show diminution both of red corpuscles and of hæmoglobin.[15] The blood gradually returns to normal with recovery, and it may be added that iron and tonics are used with good effect in melancholia. I am not aware of any data as to condition of the blood in acute misery of sane persons, but there is no essential difference in kind between sane and insane mental pain. So far all is in harmony. But on turning our attention to the state of the circulatory system we meet with an apparent contradiction, for here the prevailing feature is increased tension, which should mean increased cerebral blood-supply. High pulse-tension, which is normal in persons of apathetic temperament, exists in conditions of sane misery,[16] and has been noted in melancholia by many observers with finger and sphygmograph, and more recently with the sphygmometer.[17] It appears to have a very definite connection with mental pain; for instance, in the acute misery of abstinence in chronic morphinism blood-pressure is high, but falls when this is assuaged by a dose of morphia; and in the morning, the time when all forms of mental pain are at their worst, it is also high. In mental pain, insane or not, it is proportional to the degree of suffering; in circular insanity it is high in the depressed phase, but falls in the exalted; and it falls finally on recovery (Fig. 10). Lastly, it has been frequently found that artificial means of lowering the blood-pressure improve the mental state, while agents which raise the blood-pressure render it worse.[18] The pulse-frequency is usually low. Where melancholia is associated with excitement, however, the pressure is variable, and in some special cases it is low.[19] Still upon the whole it may be regarded as

sufficiently proved that the characteristic blood-pressure of mental pain is abnormally high, while the results of treatment are certainly one argument in favour of a causal relation of this raised pressure to the mental state. At first sight the presence of this symptom in sane misery, for which there are adequate external grounds, seems a strong objection to any such causal relation. But this does not affect the question in insanity; and even in the sane state the causal connection may be maintained if we accept the view of Lange[16] and James[20] that in emotion the organic changes precede the mental feeling and indeed give rise to it. At all events the facts prove that, even if in the first instance the mental pain produces the pressure-rise, or the two conditions are due to some common cause, the high pressure has an unfavourable influence in keeping up the morbid mental state.



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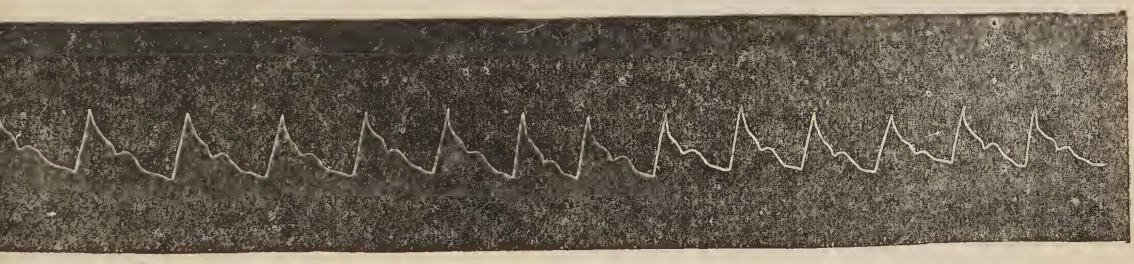


B

Fig. 10.—*Pulse-tracings from case of Melancholia.* (Whitwell.) *A*, During attack, showing high tension; *B*, On recovery.

High arterial pressure need not, however, mean increased cerebral blood-supply. It does so only when the general venous pressure is normal or low, and of the state of the venous pressure in insanity we have, unfortunately, as yet no information. Moreover, the tendency of the venous pressure would be to rise gradually in proportion to the arterial. Experimentally, also, it has been found that slow pulse and raised blood-pressure are produced by artificial anæmia of the bulb,[21] and clinically high blood-pressure is not infrequent in general anæmic conditions. There is, there-

fore some reason for supposing that in mental pain it may be due to anæmia of some of the higher centres. The raised blood-pressure in melancholic states is caused by persistent contraction of the arteries, and whatever the effects may be within the cranium, anæmia is the condition of the other organs of the body, which hence, both as an inference and as a fact, have their functional action much impaired, of which we have actual evidence in the deficiency of corpuscles and hæmoglobin. The result of all this is that the blood is poorly supplied with nutriment, both gaseous and solid. Loss of appetite and deficient oxygenation of the blood, from the apathetic listlessness which is the rule in such states, would also play their part; and thus, even if the quantity of blood passing through the brain be increased, the quality is certainly much deteriorated.[a] It must also be borne in mind, however, that the results which have been obtained by the observation of sleeping animals are not necessarily true in the same degree of waking human beings, in whom the brain circulation may not be at all so much under the control of the general vasomotor mechanism.

Now, the characteristic depression of anæmia is accompanied, as we have seen, by mental weakness. This, however, is not present in all cases of either sane or insane depression; on the contrary, the mind is often excessively active, and sensorially hyperæsthetic. But its sphere of action is very limited, and all other parts, especially those devoted to expression, seem to be thrown out of gear. The faculty of mind which is perhaps most frequently over-active is the moral sense—conscience and so-forth—a faculty, indeed, which even under ordinary circumstances is by no means a source of immediate happiness, whatever the ultimate results may be, and when morbidly active gives rise to acute mental pain. There is some reason to think that this is connected with the frontal association centre, and it is therefore conceivable that an arterial hyperæmia in this region, along with anæmia of most of the remaining brain, would explain melancholic cases of the class alluded to. This is, of course, little more than speculation; the net result of all the considerations that I have brought forward is that we have considerable reason for believing mental pain to be associated in the closest manner with cerebral anæmia.

It has been mentioned incidentally that excitement may occur

[a] Under such circumstances the increased pressure would probably represent an effort of nature to compensate for the impaired quality of the blood by increasing the quantity passing through the brain. The converse explanation might be offered for the fall of pressure in mental exaltation.

in conjunction with mental depression, and that here the blood-pressure is variable. Excitement, however, is far commoner in mental exaltation, while some degree of stupor is more usual in melancholia, stupor being itself accompanied by high blood-pressure. But the fact is that stupor and excitement should be studied as far as possible apart from the emotional condition, with which they are not necessarily conjoined. Morbid excitement is closely related to convulsions, since it often follows and may replace them, and is called forth by the same causes. Both are, in fact, "discharging lesions" produced by low vitality of the nerve-cells, a state analagous to the "irritable weakness" set up in muscle deprived of its blood-supply. A cerebral anæmia of considerable degree may call forth either symptom or both, apparently according to its suddenness of onset. Profuse hæmorrhage produces convulsions and delirium; inanition gives rise to delirium, and so does, in some cases, aortic valvular disease. Both convulsions and wild excitement may result from the local cortical anæmia caused by tumours of the convexity. Delirium has been met with in carbon monoxide poisoning,[22] in which an insufficient supply of oxygen reaches the brain; and convulsions are caused by the inhalation of oxygen under pressure, apparently owing to the rapid burning up of reserve nutriment in the nerve-cells. It might, therefore, be expected that a low arterial pressure would prevail in excitement somewhat irrespective of the emotional state, and this is what we do find, for even in melancholia when there is much restlessness the pressure is often low, and in recent cases of mania low pressure is very frequent.[23] Therapeutic measures which tend to raise the blood-pressure have a favourable influence in lessening excitement.[23] It would appear, therefore, that high degrees of excitement are due to brain anæmia, but to an anæmia either more sudden in onset or more extreme in degree, or both, than that associated with mental pain. This, however, could hardly be the case in slight excitement associated with mental pleasure, a very frequent combination; unless, indeed, we may suppose that there is here a local anæmia of the highest centre alluded to above, resulting in diminished self-control and common sense, and in some cases blunting of the moral sense itself, to which these latter qualities are so closely related. Indeed, we do at times actually find some such state of affairs even in sane mental pleasure, while in the insane condition known as mania it is exceedingly common.

The name mania is given to a class of cases in which there is some degree of excitement combined, in most instances, with mental exaltation. To study the latter element alone, therefore,

is rather difficult; but, fortunately, in some cases we have exaltation as the outstanding feature without any very excessive excitement. These are mild cases, early cases, and cases of alternating insanity in the exalted stage, in many of which there is, for a time at all events, not only an increase of the sense of well-being, but an actual improvement in the performance of the bodily functions, and, in some, even an increase in mental power[24] which would seem incompatible with cerebral anæmia. Conditions here, then, must be different from those of pure excitement.

It will be better, however, not to approach this part of our subject from the clinical side. We have seen that deficient nutriment, above all that deficient oxygen, in all probability depresses the action of the nerve-cells and gives rise to mental pain. What, now, would be the effect of abnormally increased nutriment, or rather of abnormally increased oxygen-supply, since it is scarcely conceivable that increase of nutriment strictly so called could alone stimulate to increased action?

It has been found that inhalation of pure oxygen—*i.e.*, of oxygen at about five times the pressure of that in the atmosphere—produces at first tonic or exhilarant effects, but in the course of time feverishness, excitement, and weakness.[25] These effects vary in different animals, however, some merely showing a greatly increased but otherwise normal metabolism. It may be added also that appearances resembling chromatolysis have been observed in nerve-cells after some hours' inhalation of pure oxygen. But when the gas is inhaled at still higher pressures its effects are greatly intensified, and include general and local convulsions, disordered movements, and indications of mental derangement. A pressure of $4\frac{1}{2}$ atmospheres is speedily fatal.[26] Now under ordinary circumstances arterial blood contains about 20 c.cs. of oxygen per 100 c.cs., of which only ·5 c.c. is dissolved in the plasma, the remainder being combined with the hæmoglobin. As the hæmoglobin is nearly saturated, any additional oxygen in the blood must be in simple solution. The amount runs up rather rapidly as the pressure of the oxygen inhaled rises, and the symptoms produced are roughly proportional to the rise. As all oxygen to reach the tissues must first be dissolved in the plasma (we have seen that it has even been supposed that the plasma alone approaches the nerve-cell) the results produced by the presence in the latter of the gas under abnormally high tension can be readily understood.

The cells, then, being stimulated to increased action by oxygen above normal tension in the blood, the next question is whether this can occur in other than experimental conditions. It is

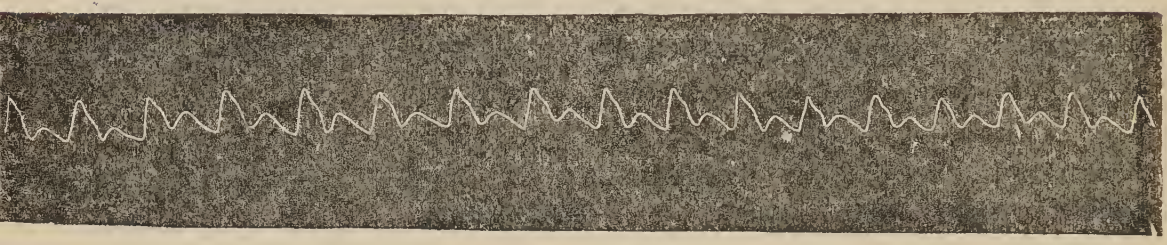
likely that the average tension of the hæmic oxygen would be slightly higher than normal if the blood were hurried through at an excessive speed, as in no part would the blood have so much of its oxygen removed as usual. On the other hand, with low general blood-pressure, an increased absorption of oxygen by the blood might conceivably take place, as the relative tension of the oxygen in the pulmonary alveoli would then be higher than normal and a larger quantity of blood would be contained in their capillaries. And, lastly, increase in hæmoglobin would tend to produce the same effect. If, therefore, with increased richness in hæmoglobin we could have a lowered general blood-pressure with disproportionately low venous pressure, a state of affairs would exist in which the tension of the oxygen reaching the nerve-cells might be sensibly increased. This is all that can be said, as we have little experimental evidence[a]; indeed, actual arterial hyperæmia of the brain has not been found to produce symptoms, but in the nature of things the condition could not have been kept up for long.

In the clinical data available little distinction has been made between cases with extreme excitement and without, all cases of mania being as a rule grouped together. With this caution it is interesting to find[15] that the corpuscular richness of the blood equals or exceeds the normal, and that the hæmoglobin is up to par or nearly so, in contrast to the state of affairs in melancholia. In cases with recurring excitement, however, the blood deteriorates both in corpuscles and hæmoglobin during the attacks. As regards the general arterial pressure, it may be noted that normally it

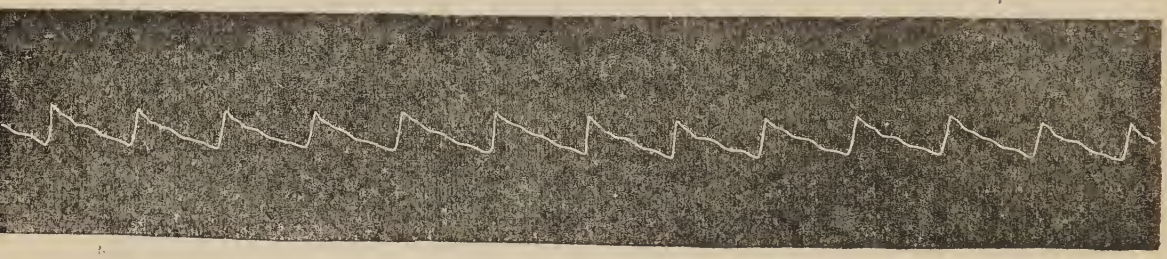
[a] If, however, we assume for a moment that the oxygen tension of the blood supplying the nerve-cells is under certain circumstances increased, the course of events may be supposed to be as follows:—Increase of both activity and metabolism quickly takes place, but so long as sufficient oxidisable nutriment is assimilated by the nerve-cells no very morbid manifestations will appear, the only emotional symptoms being probably a varying degree of cheerfulness or hilarity, with some slight excitement. If, however, oxidation exceeds assimilation, even by a slight amount, the reserve store of the cell is gradually used up, and a state of increasing "irritable weakness" supervenes, manifested outwardly by more or less pronounced excitement, which will eventually dominate all the other symptoms, until, with total disappearance of the nutritive material, it ends in utter exhaustion, perhaps coma and death. As a matter of actual observation, this is precisely the clinical course of events in many cases of mania, a fact which is at least suggestive.

It may be objected that such an increase in tension as that suggested could only be very small; but it must be remembered that the normal metabolism of the nerve-centres is exceedingly low,[28] so that even a slight increase of oxidation would be likely to give rise to disproportionately marked results, especially if acting for a considerable time.

is low in persons of excitable temperament; we have already seen that it is low in actual excitement, and there is some reason for thinking that it may be lowered by oxygen inhalation. It is reduced in sane[a] mental pleasure.[16] Low arterial pressure with accelerated pulse-rate has been found in cases of acute mania, and, a more important point, also in the exalted stage of alternating insanity. In acute delirious mania it is very low, but here there is extreme excitement, and moreover high temperature and toxic influences probably come to bear (Fig. 11). Maniacal patients



A



B

FIG. 11.—*Pulse-tracings from Case of Acute Delirious Mania.* (Whitwell.) *A*, During attack, showing low tension; *B*, On recovery.

usually become worse towards evening, at which time the pressure falls. As recovery takes place it rises to normal. It therefore appears that the blood-pressure characteristic of mania is low, and on the whole the evidence is in favour of the view that mental exaltation is associated with low pressure, even though in insanity the element of excitement cannot entirely be eliminated.

Low pressure should mean diminished cerebral blood-supply, unless the venous pressure sinks at the same time, of which we have

[a] Hill, indeed, states (*op. cit.*, *a*, p. 74), that "Each plasurable emotion raises the general blood-pressure and increases the blood-flow through the brain, and each painful emotion brings about the opposite result"; but he brings forward no evidence whatever in support of this assertion, which seems to be merely a deduction from his general conclusions, not from observation, and is in opposition to what is actually known on the subject.

no evidence; and there can be little doubt that the blood-supply of the brain is diminished, as well as, not improbably, impoverished, when much excitement is present. In the lighter cases of the class above-mentioned, where exaltation is the prominent characteristic, the amount of oxygen in the blood may be increased, and the hæmoglobin is at all events not diminished, while the improved general nutrition would ensure a due supply of solid nutriment. While, therefore, there is nothing that can strictly be called proof that mental exaltation—that is, a high degree of mental pleasure—is caused by an increased or enriched blood-supply, the facts certainly point to the connection of the emotional state with the latter condition at all events. Not the least important of such facts is the association of mental pain with the opposite physical state.

I have attempted to bring together the principal known facts bearing on the part which the circulation plays in mental pleasure and pain; many facts which might throw side-lights on this difficult subject have necessarily been left unnoticed, and, on the other hand, exceptions and difficulties have scarcely been touched on. It is not, of course, asserted that the condition of the circulation could be the sole factor in such states, but that it is an important one may, I think, be deduced even from what we know, though the want of fuller investigation, clinical, anatomical and experimental, is painfully evident. Before concluding, let me briefly sum up the results, so far as they go, of the inquiry on which we have been engaged:—

1. The emotional state produced by brain anæmia when gradual in onset, not too profound, and of some duration, is depression.

2. Anæmia of rapid onset and considerable degree tends to produce convulsions and excitement.

3. The characteristic feature of the general circulation in mental depression is high arterial tension, which helps to maintain, if it does not cause, the painful mental state; but there is no conclusive evidence of the condition of the cerebral circulation.

4. In mental depression the blood is impoverished.

5. Under experimental conditions high oxygen tension in the blood supplied to the nerve-cells produces excessive action and possibly exhilaration, but there is no real evidence that such symptoms are ever due to this cause under ordinary circumstances.

6. The characteristic feature of the general circulation in excitement, and probably in exaltation, is low arterial tension, which helps to maintain, if it does not cause, the mental state. Here, again, there is no direct evidence of the state of the cerebral circulation.

I need not stop to point out the importance of some of these facts for treatment; this has already been touched on incidentally. Nevertheless, treatment is the object which we must always have in view, the goal of all our scientific endeavours. It is this belief that has led me to adopt the apparently materialistic tone of this Address; and although, apart from this purposely limited purview, I hold materialism to be both absurd and disastrous, let me repeat that, in so far as we are practising physicians, endeavouring to do our best by the bodies of our patients, it is the tone we are all bound to adopt. What we really desiderate is a re-union of psychiatry and neurology, so long unhappily divorced—a re-union which would be attended with the most fortunate results to both.

But the privilege of adding to the knowledge of the physical conditions of mind is not one which the specialist can monopolise. If we are to advance, every branch of the profession must lend its help. Accurate clinical and pathological observations are required of early cases of insanity and slight degrees of morbid mental action; data are wanted of the anatomical differences between delirious and non-delirious cases of febrile disease, of the mental facies of ordinary physical diseases, of the small mental abnormalities of children, of a host of points which only the general physician can observe. In all these, as in countless other ways, it is the duty, and it ought to be the pleasure, of every member of the profession, as opportunity arises, to bear his part in the erection of that noble edifice of scientific medicine, the highest object of which is the alleviation of the sufferings of mankind.

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SANITARY AND METEOROLOGICAL NOTES.

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Vital Statistics

For four Weeks ending Saturday, December 30, 1899.

The deaths registered in each of the four weeks in the twenty-three principal Town Districts of Ireland, alphabetically arranged, corresponded to the following annual rates per 1,000 :—

Towns, &c.	Week ending				Average Rate for 4 weeks	Towns, &c.	Week ending				Average Rate for 4 weeks
	Dec. 9	Dec. 16	Dec. 23	Dec. 30			Dec. 9	Dec. 16	Dec. 23	Dec. 30	
23 Town Districts	26·1	27·6	29·6	33·4	29·2	Limerick -	23·9	19·6	14·0	25·3	20·7
Armagh -	21·4	28·5	21·4	21·4	23·2	Lisburn -	25·7	25·7	25·7	38·3	28·9
Ballymena	28·2	11·3	2·5	16·9	14·7	Londonderry	12·6	34·6	20·4	23·6	22·8
Belfast -	16·8	20·7	19·7	28·6	21·5	Lurgan -	36·5	36·5	13·7	22·8	27·4
Carrickfergus	5·8	46·7	17·5	3·4	23·4	Newry -	12·1	4·0	16·1	16·1	12·1
Clonmel -	14·6	9·7	34·1	14·6	18·3	Newtownards	34·0	17·0	22·7	17·0	22·7
Cork -	30·5	28·4	51·2	56·7	41·7	Portadown -	18·6	18·6	43·3	61·9	35·6
Drogheda -	15·2	22·8	30·4	22·8	22·8	Queenstown	34·4	23·0	17·2	23·0	24·4
Dublin - (Reg. Area)	36·1	37·0	40·9	41·2	38·8	Sligo -	5·0	15·2	15·2	25·4	15·2
Dundalk -	8·4	16·8	8·4	20·9	13·6	Tralee -	67·2	33·6	5·6	—	26·6
Galway -	30·2	18·9	26·4	11·3	21·7	Waterford -	33·8	23·9	33·8	31·8	30·8
Kilkenny -	47·2	33·0	23·6	37·8	35·4	Wexford -	22·6	45·2	36·1	4·5	27·1

In the week ending Saturday, December 30, 1899, the mortality in thirty-three large English towns, including London (in which the rate was 35·2), was equal to an average annual death-rate of 30·6 per 1,000 persons living. The average rate for eight principal towns of Scotland was 27·2 per 1,000. In Glasgow the rate was 27·9. In Edinburgh it was 24·9.

The average annual death-rate represented by the deaths registered during the same week in the Dublin Registration Area and in the twenty-two principal provincial Urban Districts of Ireland was 33·4 per 1,000 of their aggregate population, which, for the purpose of this return, is estimated at 1,053,188.

The deaths from the principal zymotic diseases in the twenty-three districts were equal to an annual rate of 2·4 per 1,000, the rates varying from 0·0 in twelve of the districts to 18·6 in Portadown—the 10 deaths from all causes registered in that district comprising 3 from measles. Among the 192 deaths from all causes registered in Belfast are one from measles, one from scarlatina, 6 from whooping-cough, one from diphtheria, 4 from enteric fever, and one from diarrhœa.

In the Dublin Registration Area the births registered during the week amounted to 247—133 boys and 114 girls; and the deaths to 280—152 males and 128 females.

The deaths, which are 73 over the average number for the corresponding week of the ten years 1889–1898, represent an annual rate of mortality of 41·8 in every 1,000 of the population. Omitting the deaths (numbering 4) of persons admitted into public institutions from localities outside the area, the rate was 41·2 per 1,000. During the fifty-two weeks ending with Saturday, December 30, the death-rate averaged 30·7, and was 3·9 over the mean rate for the ten years 1889–1898.

The number of deaths from zymotic diseases registered was 32, being 9 over the average for the corresponding week of the ten years 1889–1898, but 15 under the number for the preceding week. The 32 deaths comprise 15 from measles—being 8 under the lowest number from that cause in any preceding week since that ended September 9th, and 9 under the number for the previous week—one from scarlet fever (scarlatina), 9 from influenza and its complications, 2 from whooping-cough, one from diphtheria, 2 from enteric fever, and one from diarrhœa.

Only 12 cases of measles were admitted to hospital, being 15 under the admissions in the preceding week, and 46 under the number for the week ended December 2, since which date the admissions have each week shown a decrease. Twenty-eight measles patients were discharged, 2 died, and 92 remained under treatment on Saturday, December 30, being 18 under the number in hospital at the close of the preceding week.

The weekly number of cases of scarlatina admitted to hospital, which, after having fallen from 25 in the week ended December 9 to 7 in the following week, rose to 14 in the week ended December

23, fell again to 7. Nine patients were discharged during the week, and 90 remained under treatment on Saturday, December 30, being 2 under the number in hospital on the previous Saturday. This number is exclusive of 22 convalescents under treatment at Beneavin, Glasnevin, the Convalescent Home of Cork-street Fever Hospital.

The number of cases of enteric fever admitted to hospital was 12, being 10 under the admissions in the preceding week. Twelve patients were discharged, and 102 remained under treatment on Saturday, being equal to the number in hospital on that day week.

The weekly number of cases of diphtheria admitted to hospital, which had fallen from 18 in the week ended December 16 to 10 in the following week, further declined to 5. Forty-one cases of the disease remained under treatment in hospital on Saturday, December 30.

Deaths from diseases of the respiratory system, which had risen from 66 in the week ended December 16 to 73 in the following week, further rose to 98, or 45 over the average for the corresponding week of the ten years 1889–1898. The 98 deaths comprise 72 from bronchitis and 22 from pneumonia.

Meteorology.

Abstract of Observations made in the City of Dublin, Lat. 53° 20′ N., Long. 6° 15′ W., for the Month of December, 1899.

Mean Height of Barometer,	29·804 inches.
Maximal Height of Barometer (on 2nd, at 9 p.m.),	30·469 „
Minimal Height of Barometer (on 29th, at 1 p.m.),	28·330 „
Mean Dry-bulb Temperature,	40·9°.
Mean Wet-bulb Temperature,	39·6°.
Mean Dew-point Temperature,	37·8°.
Mean Elastic Force (Tension) of Aqueous Vapour,	·231 inch.
Mean Humidity,	89·1 per cent.
Highest Temperature in Shade (on 6th),	61·0°.
Lowest Temperature in Shade (on 27th),	25·5°.
Lowest Temperature on Grass (Radiation) (on 27th)	23·7°.
Mean Amount of Cloud,	72·4 per cent.
Rainfall (on 24 days),	3·287 inches.
Greatest Daily Rainfall (on 28th),	1·129 inches.
General Directions of Wind,	S.E., N.W.

Remarks.

December, 1899, was an unsettled, dull, wet month, of medium temperature, but presenting sharp and sudden extremes of warmth and cold. A Continental anticyclone of unusual intensity and persistence was observed after the 6th, the barometer rising at Moscow to 31·28 inches on the 19th. Severe frost accompanied this high pressure system, the thermometer falling to 8° at Loughborough in Leicestershire on the morning of the 14th.

In Dublin the arithmetical mean temperature (42·0°) was slightly above the average (41·3°); the mean dry-bulb readings at 9 a.m. and 9 p.m. were 40·9°. In the thirty-four years ending with 1898, December was coldest in 1878 (M. T.=32·8°), and in 1874 (M. T.=36·8°); warmest in 1898 (M. T.=47·6°), and in 1865 (M. T.=46·2°). December, 1898, established a record for high mean temperature.

The mean height of the barometer was 29·804 inches, or 0·071 inch below the corrected average value for December—namely, 29·875 inches. The mercury rose to 30·469 inches at 9 p.m. of the 2nd, and fell to 28·330 inches at 1 p.m. of the 29th. The observed range of atmospheric pressure was, therefore, 2·139 inches.

The mean temperature deduced from daily readings of the dry-bulb thermometer at 9 a.m. and 9 p.m. was 40·9°, or 8·7° below the value for November. Using the formula, *Mean Temp.*=*Min.*+(*Max.*—*min.*×·52), the value was 42·1°, or 0·6° above the average mean temperature for December, calculated in the same way in the twenty-five years, 1865–89, inclusive (41·5°). The arithmetical mean of the maximal and minimal readings was 42·0°, compared with a twenty-five years' average of 41·3°. On the 6th the thermometer in the screen rose to 61·0°—wind, W.S.W.; on the 27th the temperature fell to 25·5°—wind, W.N.W. The minimum on the grass was 23·7° also on the 27th. There was frost in the screen on 6 days, and 16 days of frost on the grass were recorded.

The rainfall was 3·287 inches, distributed over as many as 24 days. The average rainfall for December in the twenty-five years, 1865–89, was 2·404 inches, and the average number of rainy days was 16·9. The rainfall, therefore, and the rainy days were much above the average. In 1876 the rainfall in December was very large—7·566 inches on 22 days. In 1868 (which was otherwise a fine and dry year), 4·749 inches fell on as many as 27 days. On the other hand, in 1867, only ·771 inch was measured on 13 days; in 1885, only ·742 inch on 10 days; in 1892, only ·795 inch on 10 days; and in 1871, only ·797 inch on 15 days. In 1898, 1·066 inches of rain fell on 21 days.

Lunar halos were seen on the 10th and 15th: solar halos on the 2nd and 13th. High winds were noted on only 7 days, and attained the force of a gale on three occasions—the 16th, 28th, and 30th. The atmosphere was more or less foggy in Dublin on the 2nd, 3rd, 5th, 6th, 7th, 12th, 15th, 18th, 23rd, 27th, and 31st. Snow and sleet fell on the 28th, 30th, and 31st.

The rainfall in Dublin during 1899 amounted to 27·737 inches on 186 days, compared with 27·048 inches on 194 days in 1898, 29·344 inches on 211 days in 1897, 26·901 inches on 194 days in 1896, 31·242 inches on 194 days in 1895, 29·261 inches on 209 days in 1894, only 20·493 inches on 174 days in 1893, 25·644 inches on 196 days in 1892, 27·820 inches on 184 days in 1891, only 16·601 inches on 160 days in 1887, and a twenty-five years' average of 27·696 inches on 194·3 days.

At Knockdolian, Greystones, Co. Wicklow, the rainfall in December, 1898, was 3·805 inches, distributed over 20 days. Of this quantity ·950 inch fell on the 28th, and ·720 inch on the 11th. The rainfall at this station in November, 1899, was 2·885 inches, not 2·870 inches, as printed. From January 1st to December 31st, 1899, rain fell at Knockdolian on 182 days, to the total amount of 36·690 inches. The corresponding figures for 1894 were 38·776 inches on 184 days; for 1895, 35·135 inches on 174 days; for 1896, 36·102 inches on 169 days; for 1897, 42·885 inches on 210 days, and for 1898, 30·546 inches on 171 days.

Mr. Robert O'Brien Furlong, M.A., writes:—

The rainfall at Cloneevin, Killiney, in December, 1899, was 3·57 inches on 21 days. The maximal fall in 24 hours was 1·12 inches on the 28th. The average December rainfall of the 14 years (1885-98) was 2·388 inches on 17 days. The total fall since January 1st, 1899, was 31·55 inches on 183 days. This is above the average of the 14 years (1885–1898)—viz., 27·009 inches on 180 days. The maximal fall in any month was 3·61 inches in August, of which 1·95 inches fell on August 5th, during the progress of a very severe thunderstorm, which lasted from 9 p.m. on August 5th till after 1 o'clock a.m. on August 6th, and reached its greatest violence at 0 30 a.m. on the 6th. Absolute droughts occurred from May 25th to June 16th, both inclusive (23 days), and from November 15th to November 29th, both inclusive (15 days). Snow fell lightly on March 20th, 21st, and 22nd, but had quite disappeared on March 23rd. Some sleet fell on December 27th, 28th, and 30th. There was very little frost during the year.

At the National Hospital for Consumption, Newcastle, Co. Wicklow, rain fell during December on 22 days to the amount of

3·867 inches, ·815 inch being measured on the 28th, and ·760 inch on the 11th. At this Station of the Second Order, the highest temperature in the shade was 56·5° on the 5th, the lowest was 30·0° on the 15th. The rainfall for the year 1899 was 34·699 inches on 174 days, compared with 40·193 inches on 194 days in 1897, and 33·137 inches on 174 days in 1898.

At Recess, Connemara, Co. Galway, December was wet and cold. The rainfall was 9·413 inches on 26 days, 1·340 inches being measured on the 21st, and ·903 inch on the 4th. A severe snowstorm with E.N.E. wind prevailed on the 28th, lasting for 13 hours. The depth of snow on the level was 5 inches, the rainfall measurement was ·603 inch.

PERISCOPE.

MEDICAL INFLUENCE ON SOCIAL CUSTOMS.

Dr. E. MacDowel Cosgrave, F.R.C.P.I., Professor of Biology, R.C.S., Ireland, writes as follows:—The medical profession having of late years taken a great interest in Preventive Medicine must have their attention arrested by the large number of deaths caused by intemperance, the more so as they know their influence has a strong effect one way or the other with the patients, and the circles of which each sick person forms a centre. All people belong to one of three classes—(1) Abstainers: (2) Moderate drinkers: (3) Intemperate drinkers. Abstinence is healthy and safe. Insurance Companies have learned this and give abstainers cheaper rates or larger bonuses. By ordering stimulants in illness and especially during convalescence, medical men may take from Class 1 and add to Class 2, where a man will be thrown into companionship with, and exposed to the temptations of Classes 2 and 3. If a man is a moderate drinker and gets medical encouragement, he is apt to put too much trust in the strengthening and reviving power of alcohol and is in danger of joining Class 3. For just as travellers cross "the Line" without noticing it, so do drinkers cross the line between moderation and excess. A leading London physician used to advise an annual fast from alcohol, and used to add that if the alcohol was much missed, this fact should be accepted as a danger sign, and the use of alcohol should not be resumed. Gough said "every moderate drinker could abandon the drink if he would; every inebriate would if he could." This well represents the two sides of the invisible line. It is a mistake to divide doctors into abstainers and non-abstainers: it is an easy

division, but a more useful one would be to divide them into those who, knowing the evil drink is doing, and how easily people slip into intemperance, throw their weight on the side of sobriety, and into those who do not realise their duty in this particular. "The doctor advised me to take it," or "they gave it to me in the hospital," are arguments often used for giving drink to others without waiting for the doctor's advice. If medical men would only devote a little thought to the matter they would hesitate to strengthen the heavy hold drink has on the country by giving it their countenance. Our armamentarium is not so badly supplied but that in nearly every case—if not in all—a substitute could be found, a substitute which the patient would cease to use when the need was over. The influence of medical men is strong, and we should use it mercifully, drawing towards safety rather than pushing into danger.—*The Medical Temperance Review*, Vol. III., No. 1, January, 1900.

ELEPHANTIASIS OF LABIA.

Hamann reports (*Am. Gy.*) a case of femoral hernia operated on, during which operation the fat and some small saphenous lymph glands were also removed. The recovery was uneventful, but a few weeks afterward there was a painful swelling of the right labium majus, which subsided under treatment but has recurred a number of times since, leaving slight enlargement of the parts. He attributes the condition, which as a sequel to operation for femoral hernia was before unknown so him, to the removal of the glands and the fat tissue, causing interference with the lymph circulation. He explains his theory of the condition at length, with reference also to other observations parallel but not identical with his own.

PROGRESS IN GYNÆCOLOGY.

Dr. C. P. Noble, in an Address to the Alumni Association of the University of Maryland, on the Progress of Gynæcology, concludes with the following words—"Among gynæcologists themselves progress must come by making the basis of gynæcology more pathological and less clinical. Gynæcological theories must stand the test of general pathology, and until this end has been fully accomplished gynæcology will remain to a certain extent empirical. To place gynæcology upon a broad scientific basis is of such importance that it is one of the most urgent duties of specialists in this department to avail themselves of the studies of expert pathologists. This will accomplish two admirable ends—correct false theories in gynæcology and add to the knowledge of the pathology of the diseases of women.

In Memoriam.

THOMAS WRIGLEY GRIMSHAW,

C.B., M.D., M.A. UNIV. DUBL.;
FELLOW AND PAST PRESIDENT, ROYAL COLLEGE OF PHYSICIANS OF IRELAND; REGISTRAR-GENERAL FOR IRELAND;
J.P. CO. DUBLIN.

With pained surprise Dublin learned on the morning of January 23 the melancholy tidings of the unexpected and almost sudden death of this able member of the medical profession. Dr. Grimshaw succumbed on the 7th day to an attack of post-influenzal broncho-pneumonia, in the sixty-first year of his age.

Thomas Wrigley Grimshaw was born on November 16, 1839, at Whitehouse, Co. Antrim. He was descended from the Grimshaws of Whalley, Lancashire, his great-grandfather having migrated from that place to Greencastle, Co. Antrim, where he founded the calico-printing industry in Ireland. Dr. Grimshaw's father was Wrigley Grimshaw, F.R.C.S.I., an eminent dentist, who was dental surgeon to Steevens' Hospital, Mercer's Hospital, and the Pitt-street Institution for Diseases of Children.

The subject of this memoir was educated at Bryce's Academy, Newry; at Carrickfergus School; at the Academic Institute, Harcourt-street, Dublin; and at the Dublin High School, St. Stephen's-green, Dublin, under the ferule of Matthias Hare, LL.D. He graduated in Arts in the University of Dublin in 1860, obtaining first Junior Moderatorship in Experimental and Natural Science at the Degree Examination in Michaelmas Term of that year. At this time Grimshaw was busy with his professional studies in the School of Physic in Ireland, Sir Patrick Dun's Hospital, and Steevens' Hospital, and on June 26, 1861, he took the degrees of M.B. and M.Ch. in the University of Dublin. In 1862 he was enrolled as a Licentiate of the Royal College of Surgeons in Ireland. His further professional qualifications were—M.D. Univ. Dubl., 1867; Licentiate of the Royal College of Physicians of Ireland

(1867), Fellow (1869), Diplomate in State Medicine, Trinity College, Dublin (1874). In recognition of his brilliant answering for the last-named qualification the degree of Master of Arts was conferred upon him *stipendiis condonatis*. From the outset of his professional career, GRIMSHAW threw himself into the active practice of his calling as a physician with marvellous energy. For several years he was one of the physicians to Steevens' Hospital, filling in the Medical School formerly attached to that institution the lecturerships in succession on Botany, Materia Medica, and Medicine. He served for fourteen years as Visiting Physician to Cork-street Fever Hospital, and wrote a number of medical reports on the work done in the hospital, which are of the highest statistical and scientific value. He acted also as Physician to the Coombe Lying-in Hospital, as Examiner in Practice of Medicine and Materia Medica in the Queen's University of Ireland, as Censor and Examiner in Medicine in the Royal College of Physicians of Ireland, and as Examiner in Vital Statistics in the University of Dublin.

In the autumn of 1879 DR. GRIMSHAW was appointed Registrar-General for Ireland in succession to Dr. William Malachi Burke, who had died of an attack of pleuro-pneumonia on August 13 in that year. This necessitated his retirement from practice; but the renown he had achieved for himself found expression in his appointment as Honorary Consulting Physician to both Steevens' Hospital and Cork-street Fever Hospital, as well as to the Dublin Orthopædic Hospital.

As Registrar-General, DR. GRIMSHAW devoted all his great energies during more than twenty years to the service of his country and to the welfare of its people. He died absolutely in harness, for within six days of his death, with his fatal malady upon him, he was in his office at Charlemont House, Dublin.

DR. GRIMSHAW received many marks of public esteem as the years went by. He was President of the Statistical Society of Ireland in 1888-1890, of the Dublin Sanitary Association from 1885 to 1888, and, above all, of the Royal

College of Physicians of Ireland in 1895 and 1896. He was a member of the Commission on the Dietary of Irish Prisons in 1880, and of the Commission to inquire into the sanitary condition of the Royal Barracks, Dublin, in 1887. He was author of many important papers on medicine, fever, sanitary and statistical questions. In conjunction with the writer of this memoir he published in 1875 a paper on an infective form of pneumonia, which the authors termed "pythogenic pneumonia," and so foreshadowed the modern doctrine of the ætiology of pneumonia. He was joint author of the "Manual of Public Health for Ireland," published shortly after the passing of the "Public Health (Ireland) Act, 1875." The pages of this Journal have been enriched from time to time by many valuable papers from his pen. His Governmental Reports are models of their kind. They extend over twenty years, and deal with births, deaths, and marriages in Ireland, agriculture, emigration, crime, judicial statistics, banking and railway statistics. It fell to his lot to superintend the Census of 1881 and the Census of 1891, and at the time of his too early death the arrangements for taking the Census of 1901 had been almost completed by him. In 1897, the year of the Queen's "Diamond Jubilee," he received the well-won distinction of a Companionship of the Bath.

In private life Dr. Grimshaw showed an attractive personality. At the early age of 26 he married, on April 11, 1865, Sarah Elizabeth (Settie), daughter of the late Rev. Thomas Felix Thomas, of Broadlands, Newport, Isle of Wight. By her he had twelve children, of whom nine survive him—seven sons and two daughters. His eldest son, Temple, died of "croup" (? diphtheria) on October 18, 1872, aged $6\frac{1}{2}$ years; his eldest daughter, Violet Settie, died of scarlatina May 5, 1874, aged nearly 5 years. These, and the death of his daughter-in-law in 1898, were the great sorrows of his married life, which was otherwise one of much happiness and content. Five of his sons have already reached manhood. Three of them are "Soldiers of the Queen," all having served or serving at present in the Royal Dublin Fusiliers. One of these officers, Lieutenant Cecil

Thomas Grimshaw—is now a prisoner of war at Pretoria. His eldest surviving son, Ewing Wrigley Grimshaw, of the Indian Staff Corps, married in 1893 the daughter of Lieut. Col. W. R. Kaye, of the Army Pay Department. This lady unfortunately died in 1898, leaving two little girls, who have been living with their grand-parents at Priorsland, Carrickmines, Co. Dublin.

Dr. Grimshaw was a philanthropist of transparent sincerity. His life-work and his pleasure were to benefit his fellow-creatures, to improve the lot of the less fortunate among them, and to relieve them in sickness and sorrow. His loss to the Dublin Hospital Sunday Fund, to the National Association for the Prevention of Cruelty to Children, and to the National Hospital for Consumption at Newcastle, Co. Wicklow, is irreparable. A man of sterling honesty and steadfastness of purpose, he fought for what he believed to be right, fearless of consequences and often to his own disadvantage. To an inner circle of intimate friends he was endeared by the nobility of his character—one might often have occasion to differ from him, but never to doubt or mistrust him. His life was a continuous self-sacrifice to duty. Of him it may well be said in the words of Horace—

"Multis ille bonis flebilis occidit."

J. W. Moore.

THE DUBLIN JOURNAL

OF

MEDICAL SCIENCE.

MARCH 1, 1900.

PART I.

ORIGINAL COMMUNICATIONS.

ART. VIII.—*The Position of Murphy's Button in Modern Surgery.* By J. S. M'ARDLE, F.R.C.S.I.; Surgeon to St. Vincent's Hospital, Dublin.

(*Continued from page 90.*)

MECKEL'S DIVERTICULUM CAUSING INTUSSUSCEPTION.

CASE VII.—Miss E. J., aged twenty-one, came under my care in August, 1899. For some time she had suffered from recurrent attacks of severe abdominal pain, chiefly referred to the right of the umbilicus, and simulating the pain of appendicitis. When she came under my care the abdomen was enormously distended, tympanitic in front, but dull at the loins and lower abdomen. Her pulse was 140, temperature 103·6°, and she seemed almost unconscious, so that very little ether was required in the performance of the following operation:—I made a long incision in the central line of the abdomen, giving exit to a considerable quantity of muddy serum full of shreds. The intestines were covered with great flakes of lymph and glued together by adhesions. On freeing these and bringing the point of intestine at fault into view, I found an intussusception at the lower end of the ileum. There was complete obstruction at this point, the bowel-wall being greatly thickened for about four inches. I joined the healthy upper portion of ileum to the ascending colon by a medium-sized button (as in Fig. 7) and closed the abdominal wound, leaving a drain in its lower angle. For 10 days after the operation this patient's condition

was very low, gradual improvement then set in, and five weeks after she came under my care she left the hospital the picture of health.

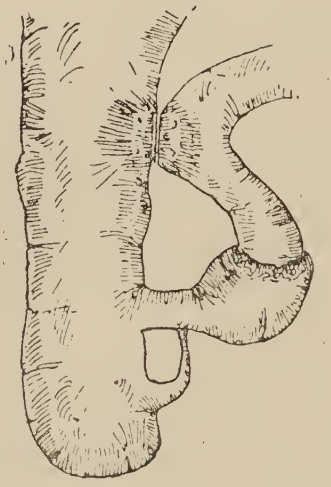


Fig. 7.

This patient kindly presented herself at the first meeting of this Section of the Academy, and she still retains the good looks she exhibited on that occasion. In the course of this case, during my absence from town, I had the assistance of my colleague, Mr. Fagan. The button in this case has not been recovered although passed. An X-ray photograph, which I exhibit, shows that there is no hope of my having a second operation for its recovery.

It is a contrast to the next picture (Fig. 8) which I desire to exhibit, because in this you see a Murphy's button resting below the brim of the pelvis; and I can assure you no manipulative effort of mine sufficed to move it thence. In this case—which had been under my care some seven months before—I had placed the button in a very thickened large intestine, and when I operated for its removal I learned the cause of its failure to be expelled. I opened the healthy bowel four inches above the position of fixation, and after considerable traction on the button with a strong forceps I released it from a dense annular band, which the pressure of the button was not capable of destroying.

This case demonstrated to me the danger of using buttons such as are depicted at Fig. 10 B, and I publish it as a warning to others that they may not be obliged to discover the defect by unpleasant experience.

EXTENSIVE ULCERATION OF CÆCUM AND COLON; ILEO-COLOSTOMY; CURE.

Case VIII.—Mrs. L. C., aged forty-two years, was sent to me by Dr. Carroll, of Dromahair, with a history of chronic intestinal obstruction, with a note that she suffered from displacement of the right kidney. On examination I found that the right kidney was

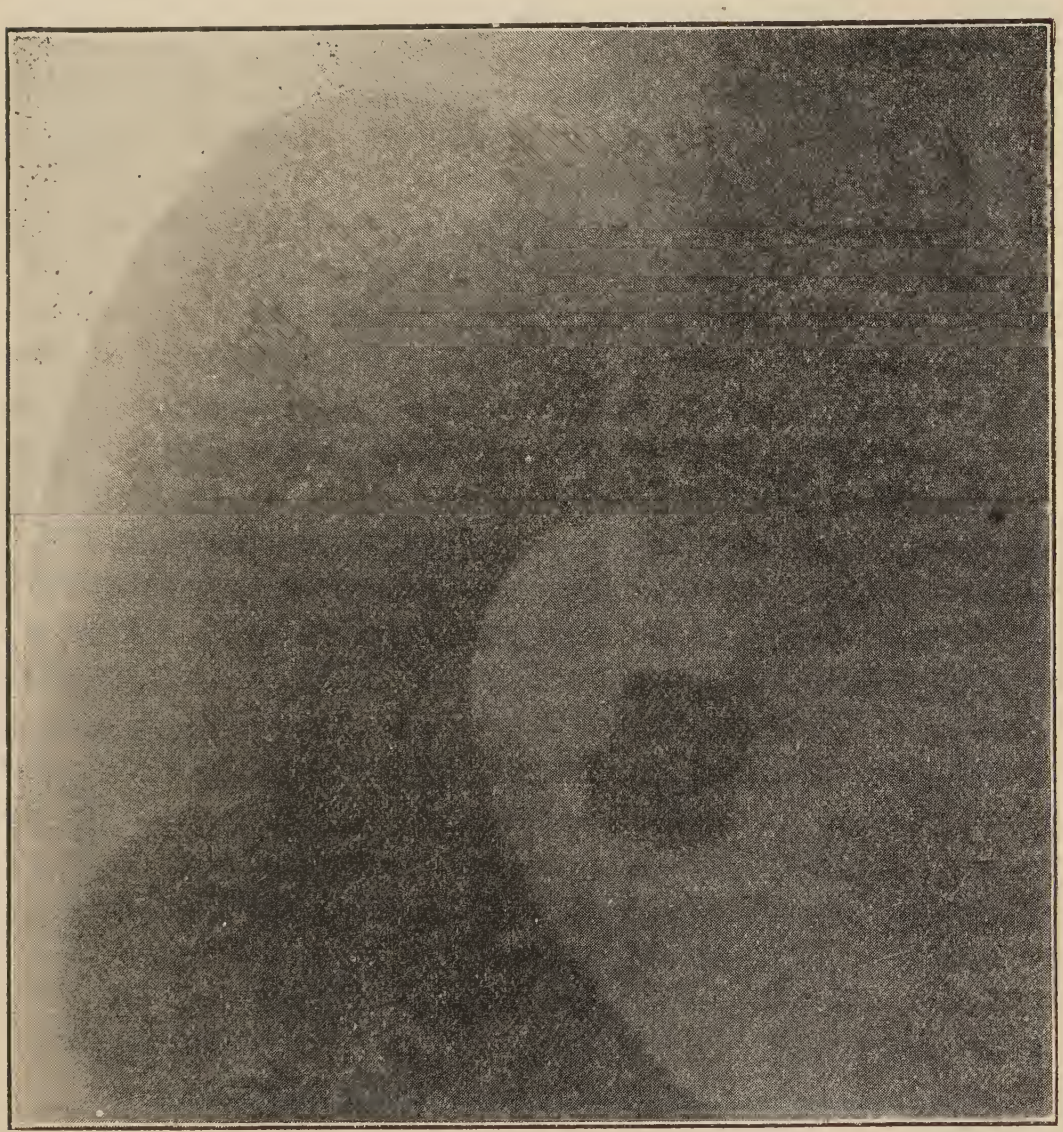


Fig. 8.

Left half of pelvis viewed from behind, showing Murphy's button of imperfect shape.

movable, and that the cæcum and ascending colon were thickened but not fixed, as the patient had much occasional hæmorrhage from the bowel. I was convinced that ulceration was present. On January 10th, 1900, I made an incision four inches in length in the right semilunar line, and on opening the abdomen I found the great omentum adherent to the front of the cæcum and the edge of the pelvis; on freeing this, and pushing it upwards, I

found the thickening which I had already diagnosticated, the meso-colon being the seat of several enlarged glands extending towards the vertebral column. Feeling that resection of the bowel could end only in death, and that there was a possibility of isolation of that part of the bowel leading to its atrophy, I joined the ileum to the central part of the transverse colon by a medium-sized Murphy's button. Although the patient was greatly emaciated she rallied rapidly after the operation, and on the third day there was a natural evacuation of the bowels. On the fourth and fifth days there was some pain, which I attributed to the button becoming detached. This was relieved by turpentine and oil enema. The button passed on the ninth day, and since that time evacuation of the bowel has been regular. All pain has disappeared, and the patient has been able to attend her ordinary avocations.

In discussing the subject of intestinal anastomosis one may divide the methods into four separate groups. First, those in which no appliance is used to aid in the application of the sutures; second, those in which a temporary support for the bowel is employed, and removed immediately after the sutures have been inserted; third, those in which the appliance is left to be absorbed; and fourth, where a metallic appliance is used and must be passed through the intestinal tract.

The following are chief amongst the methods:—

1	*a.* Jobert's.	Without support.
	b. Czerny-Lembert's.	
	c. Wölfer's.	
	d. Maunsel's.	
	e. Cheatles'.	
2	Laplace.	With temporary support.
	Halsted.	
3	Paul.	With absorbable support.
	Ullman.	
	Allingham.	
	Mayo Robson.	
	Ball.	
	Hayes.	
	Senn.	
	Dawbarn.	
4	Murphy.	With inabsorbable support.
	Barazac.	

These different methods have been so thoroughly advocated by their respective inventors, and so criticised by those otherwise interested, that I would not dare to occupy the time of the profession with any comments on their merits or demerits, further than to say that the most brilliant operators have not yet any of them made much impress on the high mortality which a decennium ago attended operations of this class carried out by the most simple means. I will therefore confine myself to a discussion on the subject in hand—namely, the current value of Murphy's button.

Mr. Murphy should feel highly complimented if universal criticism is any proof that his appliance has been discussed on its merits, for in the whole history of surgery no method of treatment has received at the hands of the profession so extensive an investigation. That the criticisms are not always favourable does not prove that the failures reported were the outcome of the adoption of his principle of treatment. I shall detain you while I call attention to some of the objections to its use put forward by men of high surgical standing—

1. Contraction of the intestine at the site of operation.
2. Sloughing of the intestine from pressure.
3. Septic peritonitis.
4. Retention of the button.
5. Kinking of the bowel.
6. Faulty position of the button, when once inserted cannot be easily rectified.
7. The expense and the difficulty of having the proper size at hand.

In reviewing the cases brought up in support of the first objection I can find no instance in which healthy portions of the intestines were joined and subsequent narrowing of any kind resulted. With regard to the second, in the recorded histories which I have come across I find that sloughing occurred—(*a*) When too large a button was used; (*b*) when the button was inserted near to cancerous or other diseased tissue; (*c*) where the blood-supply to that section of the bowel had been impaired by faulty suture of the mesenteric cleft; (*d*) where a widely dilated and functionally active piece of intestine was joined to one which, from long disuse, had become atrophied.

The third objection, vigorously supported by Professor Senn, who may be called the father of this department of surgery, is not grounded on the solid basis of fact, either experimental or pathological.

The fourth objection (retention of the button in intestinal canal) is supported by many cases, including the one to which I have referred in my own series. It is easy to explain the failure of the button to pass in the case to which I allude. It was inserted in a bowel so thickened and fibrous that section with a knife even was difficult. That it did not cut its way through the superimposed walls is not difficult to understand and that a dense ring should remain. The real explanation of the retention of many buttons is that the button was faulty in construction, or that it was placed in a position which the appliance should never occupy.

The next objection (5), kinking of the bowel owing to the weight of the button, does not hold with any man accustomed to dealing with intestinal surgery. It is only when the bowel is semi-paralysed that the weight of the button could influence its position in the abdomen, and where paralysis, partial or complete, is present it is the duty of the surgeon to so support the bowel by fixation to the abdominal wall, or otherwise, that no improper position can be assumed by the viscus.

The next objection (6) lodged against this appliance is very strange in the mouth of a surgical expert—*That faulty application of the button cannot be easily rectified, and may require a further resection of the intestine.* I would ask the critic who advances this objection why should any surgeon in his sound senses apply the button wrongly, and can he attribute to an appliance the fault of its application?

The last (7) and most serious objection, which one surgical writer makes lengthened note of, is the expense of the appliance. To this gentleman I would say, human life is very cheap, if on the other side of the scale we would place the paltry cost of any appliance, however extravagant in price.

I have now passed in review the numerous objections scattered over the literature for the last eight years, and, for my

part, holding in respect many of those who have found fault with this procedure, I feel that, considering the reduction in mortality which has been admittedly brought about by this apparatus (from 60 to 30 per cent.), it is criminal to experiment on the human subject with appliances the worth of which has not been determined by experimental research and proven by a long series of brilliant results.

ERRORS IN MANUFACTURE OF BUTTON.

(*a*) The clips which hold the two portions together may not hold under pressure of thick-walled intestine if their teeth are imperfect.

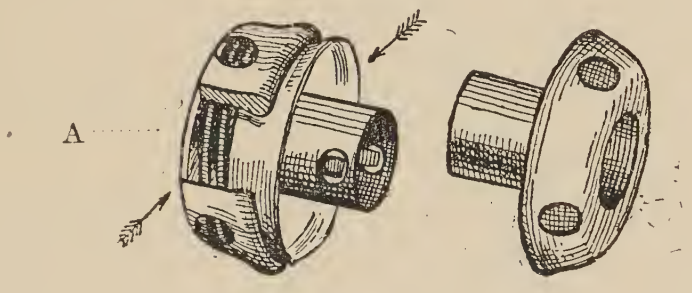


Fig. 9.

(*b*) The clips should be riveted at base, as the solder has yielded, setting free one or both clips. Before using a button fairly vigorous traction should be made to test the button for these defects.

(*c*) The spring (A, Fig. 9) is sometimes too weak to complete the separation of the inverted bowel-wall, and so a ring of tissue supports the button instead of sloughing off.

Fig. 10.

(*d*) The flanges of the button should, when pressed home, leave no appreciable furrow between the spring flange and the female half of the button. Fig. 10 A repre-

sents a button which causes necrosis of the inverted portion of intestine, while Fig. 10 B is bound to leave a ring of tissue to retain the button, or later on to form a stricture. In fact the button in this shape is open to the strongest objection brought forward against the various bobbins now in use.

ERRORS IN JUDGMENT.

(*a*) The history of many recorded cases of failure bear evidence of the fact that it has been sought to join pieces of intestine already the seat of infective processes, which left little hope of union taking place, or in which limitation of necrosis to the part engaged by the button was quite impossible.

(*b*) Not a few cases of retention of the button, as shown in my case, were the outcome of endeavouring to join the intestines where they were already greatly thickened, and, therefore, not well suited for this method.

(*c*) Several cases have come under my observation in which the effort has been made—with baneful result—to join a small to a large intestine by end to end anastomosis; and in a case of recent date failure attended an effort to join a widely-dilated intestine above a stricture (by end to end anastomosis) to the constricted and atrophied part below, with the result that overstretching of the smaller segment led to necrosis of the ring of bowel surrounding the button. This was a case for lateral anastomosis if it was surgery to carry out an anastomosis of any kind.

(*d*) Again, failure has been invited by placing a button in such a position that the chances are all in favour of its falling into a portion of the intestine from which there is no exit. This has been done in many cases, the button being found above strictures or retained in loops of the intestine. The existence of such obstructions to the evacuation of the button should be known beforehand, and thus many failures attributed to the button would be avoided.

When there is injury or disease of any part of the intestine which is fixed, end to end anastomosis should not be undertaken; the proper procedure here is to remove the disease or close the wound in the bowel, and carry out a lateral anastomosis. Especially is this necessary in cases

where thickening is present from enteritis, as it is under these conditions quite impossible to properly invert the edges of the bowel between the halves of the button, and sutures of support, if necessary, do not hold in the softened tissue.

ERRORS IN TECHNIQUE.

(*a*) In circular enterorrhaphy the passing of the purse-string suture so as to close the mesenteric interspace, as in Fig. 11, is of much importance. Should this loop of suture

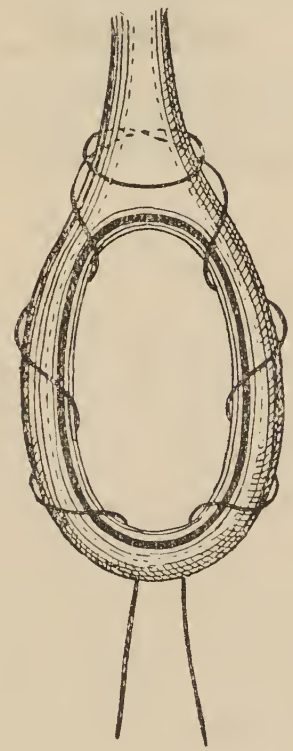


Fig. 11.

surround a large mesenteric artery so as to occlude it, necrosis of a segment of the bowel is certain to occur.

(*b*) If there be much fatty tissue in the interspace along the concavity of the intestine, as in Fig. 12 A, its inversion by the closing of the purse-string suture will introduce an incompressible mass between the halves of the button at the mesenteric edge. This will prevent an even compression of the inverted bowel-wall, and lead to leaking where pressure is insufficient, or to extensive and acute necrosis where violence has been done to the tissues at the mesenteric border.

(*c*) Wherever the button is used, if the suture is carelessly applied, it becomes impossible to completely invert the bowel-wall into the hollow in each flange of the button

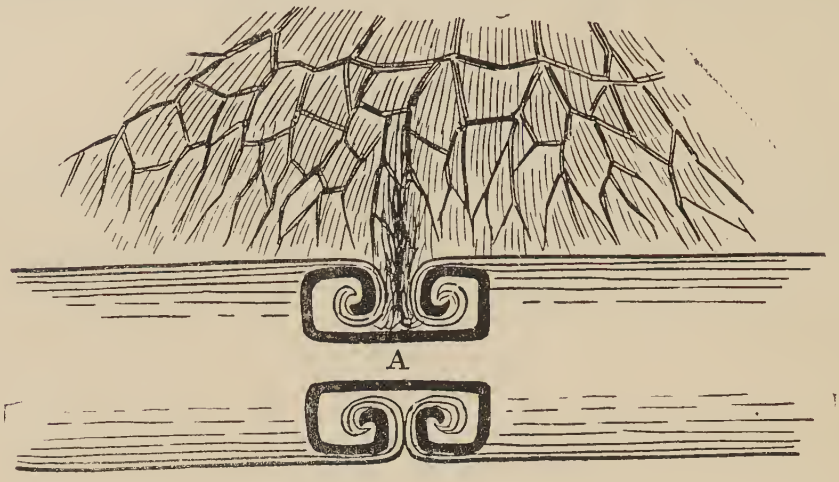


Fig. 12.

as it should be, and as it appears in Fig. 13; thus at some point an incomplete closure of the bowel results, and extravasation of the bowel contents is rendered likely.

(*d*) The inclusion of too much bowel-wall in the encircling suture makes it impossible to so place the suture in the interior of the button that portions of the silk lie between the opposed serous surfaces where union is supposed to take place, with the result that union is delayed, and often infection travels along the suture line to the peritoneal surface. If in these cases protective adhesions have not formed early peritonitis is certain to occur.

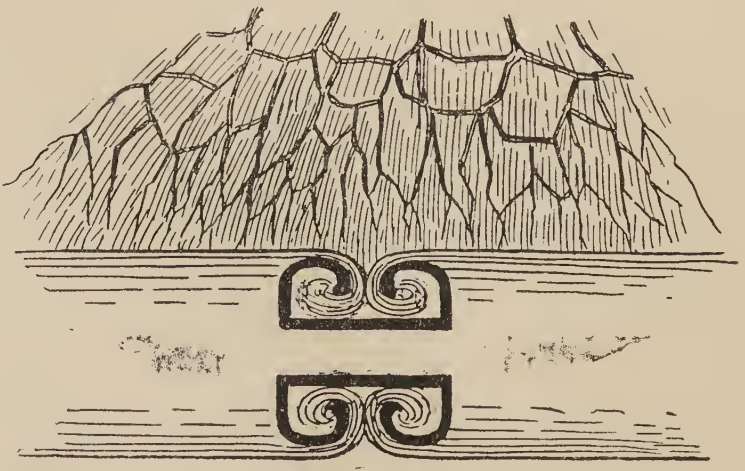


Fig. 13.

(*e*) To assist in the introduction of the male button I got Messrs. Fannin to make a shouldered forceps for keeping the spring flange down, thereby allowing the passage of this half through the same size of incision as the other half. When the incision is too long the purse-string has to crowd into the hollow of the button much more tissue than it can with advantage accommodate.

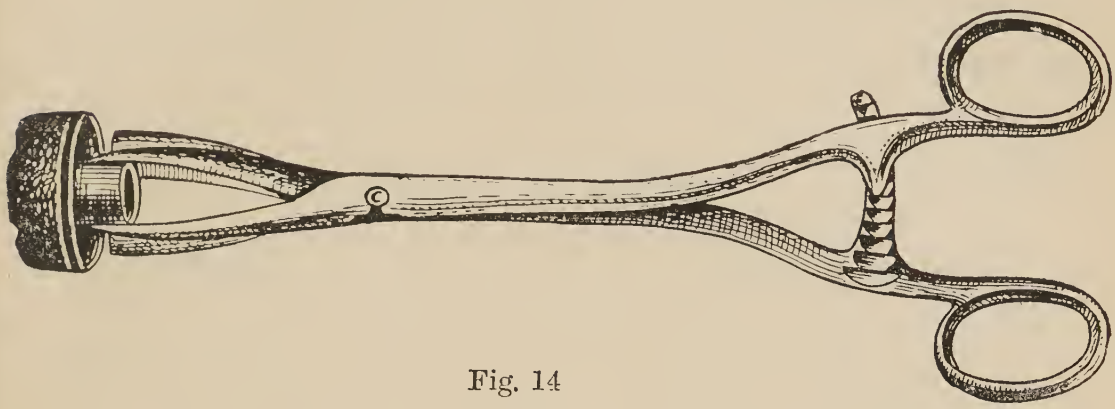


Fig. 14

By carefully studying the history of the published cases in which death has followed the application, one can easily discover the cause of failure, and it is manifestly unfair to ascribe to the button the disasters which have arisen from some of the foregoing causes.

There will be a fair chance of determining the value of the different methods of intestinal repair during the war with the Transvaal. The Burghers have a keen appreciation of the vital part of the Briton, and so we learn that abdominal wounds are very numerous, and as many of these are not of a fatal nature, any one who honestly endeavours to do the best that can be done for the sufferers has a favourable opportunity of illuminating the surgical history of our time. With our present advanced knowledge of the surgery of the head, chest and abdomen, and with the added help of X-ray photography and the power this peculiar light gives us of seeing through parts heretofore darker than the darkest Africa, the work of the present well-equipped staff in South Africa should open a new era in surgery. It is my hope that the department of surgery with which I have dealt in this paper may be placed on a sound basis by the efforts of our distinguished *confrères* attached to the forces.

Art. IX.—*The Rôle of the Municipality in Public Hygiene.*[a]

By Sir Charles A. Cameron, C.B.

Gentlemen,—My first and most pleasing duty is to express to the members of this important branch of the British Medical Association my grateful thanks for the compliment which they have paid me in electing me as their President. Many of the most distinguished physicians, surgeons, and gynæcologists of this city have occupied the presidential chair, but this is the first time that the office has been entrusted to a member not engaged in medical practice, but who is altogether devoted to Preventive Medicine. I venture to assume that the election of a professional sanitarian as your President is not merely a personal compliment, but is a recognition of the value of Sanitary Science to the general public, and of the important position which it now occupies in medical education, and indeed I might say in medical and surgical practice.

Being a sanitarian, and occupying the position of Chief Medical Officer of Health for the City of Dublin, it has occurred to me that the *rôle* which municipalities play in relation to public health would be a suitable subject for the Address which it is the custom of your President to deliver. The power of municipal authorities to promote measures for the improvement of the public health, formerly very limited, has been greatly increased in the latter half of the nineteenth century, and at present is very extensive. Many of the authorities use these powers almost to their full extent, others in a moderate degree, and not a few only so far as they are compelled to employ them. Many so-called sanitary authorities have not adopted the Notification of Infectious Diseases, the Open Spaces, the Housing of the Working Classes, the Shop Hours, and other useful Acts. They have not established abattoirs, baths and washhouses, or disinfecting

[a] A Presidential Address to the Leinster Branch of the British Medical Association, 6th February, 1900.

chambers, nor carried out efficiently the provisions of the Sale of Food and Drugs, the Margarine, and the Contagious Diseases (Animals) Acts.

PORT SANITARY AUTHORITIES.

One of the most important functions of municipal sanitary authorities is the adoption of measures most likely to prevent the invasion of these Islands by exotic diseases, such as Asiatic cholera and plague; and also to prevent other diseases, such as small-pox, from gaining an entry into towns.

Until the passing of the Public Health Act of 1896 special provisions to guard against the entry of only three foreign diseases were adopted. When any one of those diseases existed in any part of the world from which it might be imported into an Irish port, the Local Government Board framed orders in reference to ships coming from infected ports, which were carried into effect by the Boards of Guardians whose districts abutted on the ports and adjacent sea. The Boards of Guardians acted not only for their own districts, but also for various municipal authorities and for other Boards of Guardians. For example, the South Dublin Board of Guardians was the sanitary authority for their own Union, the North Dublin Union, the City of Dublin, and Clontarf and Pembroke Townships.

It always occurred to me that it was extraordinary to make a Board of Guardians, unprovided with a disinfecting depôt, or proper disinfecting staff, practically, a port sanitary authority instead of the city sanitary authority, who were well provided with the means of disinfecting ships and the clothing of their crews and passengers. The Board of Guardians in Dublin, however, did their duty thoroughly, and the city authorities gave all the assistance the Board required.

Until the Act of 1896 was passed there was no power to constitute a permanent port sanitary authority, nor was such a term made use of in any Act or in any Order of the Local Government Board. The only permanent duty of the South Dublin Board of Guardians was the maintenance

of a hospital ship in Dublin Bay, at the joint cost of all the sanitary authorities for whom the Board acted, in times of threatened invasion of cholera, &c.

The Act of 1896 enables the Local Government Board to constitute permanent port sanitary authorities, with power to inspect ships even when cholera, plague, or yellow fever are not threatening Europe. Other diseases than those might be introduced by ships, and the hygienic conditions of the ships themselves may be investigated by officials of the port sanitary authority.

The Corporation of Dublin have petitioned the Local Government Board to constitute them the port sanitary authority for the Customs Port of Dublin, which includes all the minor ports of the coast from Balbriggan to Courtown. Belfast Corporation are at present the only port sanitary authority in Ireland, and they act for the whole of Belfast Lough.

I would here venture to point out what I consider to be an injustice to the port sanitary authorities, and it is this. In times when an invasion of cholera, &c., is feared, considerable expense may be incurred by the port sanitary authority in the medical inspection of ships, in their disinfection, in providing hospital accommodation, &c. All this expense is incurred not merely to keep, say cholera, out of the particular port, but out of the country at large. It is hardly fair that this expense should be borne solely by the districts that abut upon the sea when the whole country benefits by it. For example, if the Corporation's petition to be constituted the port sanitary authority be granted, the cost will be shared by Pembroke, Kingstown, Clontarf, Dalkey, Killiney, and Bray Townships, and by the four Unions of the County Dublin and two Unions in the County Wicklow; but Rathmines, Kilmainham and Drumcondra Townships will not have to contribute to the expense. Of course these townships are as much interested in keeping out cholera as the City of Dublin is. I would go so far as to say that the expenses incurred by port sanitary authorities—at least in epidemic times—ought to be borne by the country at large.

DANGEROUS SHELLFISH.

From the subject of seaborne disease to that of disease-infected marine inhabitants of the littoral coast the transition is easy and natural. We require to be protected against the importation of shellfish developed in river estuaries and bays which are contaminated with town sewage.

Nearly twenty years ago I read a paper before the British Medical Association, in which I pointed out that under certain circumstances oysters might be the vehicle for the diffusion of the poison of typhoid fever. I mentioned that I had actually found the characteristic micro-organisms of sewage in oysters. This paper was not taken seriously at the time, and it was not till several years after its publication that the possibility of shellfish containing pathogenic organisms derived from sewage was acknowledged. I have published in the Dublin Journal of Medical Science an outbreak of disease which unmistakably was due to infected oysters. Many similar papers appear from time to time in the medical journals—a very remarkable one being that contributed to the *Practitioner* by my friend, Dr. J. W. Moore, President of the Royal College of Physicians of Ireland.

It is incumbent on the sanitary authorities, whose jurisdiction extends to the coasts, to exercise whatever powers they may possess to prevent shellfish from being used as food when they have been obtained from places contaminated by sewage. Unfortunately their powers are neither extensive nor properly defined. A Bill, having for its object the preservation of oyster-beds from sewage contamination, which was introduced into the House of Lords last session had to be abandoned, I trust only temporarily. There was a serious defect in that Bill, which I trust will not appear in its successor, should there be one—namely, the not entrusting the carrying out of the provisions of the proposed statute to the local sanitary authorities.

Although infected shellfish have caused enteric fever, and probably other diseases, milk, water, and even vegetables that are eaten uncooked, have also communicated to

man the *materies morbi* of various maladies. It would therefore be a terrible waste of food if every article of it that might possibly contain the germs of disease were excluded from our dietaries. Oysters obtained from the lonely coasts of the West of Ireland, and from other coasts far from the great towns, constitute an article of food containing about the same percentage of nutrient matter as milk, and possessing a flavour which the majority of people highly appreciate. Oysters from such sources may be consumed with impunity. If a stringent Act for the protection of oysters from sewage were vigorously administered by the sanitary authorities these delicious mollusks would be eaten with greater confidence by the lovers of them, and by many others who now refrain from them because they might possibly be infected.

HOSPITAL ACCOMMODATION FOR INFECTIOUS DISEASES.

One of the duties which now devolve upon municipal and other sanitary authorities is the establishment of fever hospitals. In England and Scotland all the more, and most of the less, important municipalities have provided fever hospitals. In London this duty is entrusted to a body having the rather curious name of the Asylums Board, and which represents the various municipalities of the great metropolis. This Board has made special provision for small-pox cases, as have also many of the English municipalities. It is important to note that the fever hospitals are in no way associated with pauperism. The most respectable persons enter them, and the inhabitants of the district in which they are situated are entitled to be admitted to them as a matter of right, and not of concession.

In Ireland the Poor-law Boards of Guardians are bound to provide hospital accommodation for the sick poor, and in many parts of Ireland fever cases are received into workhouse hospitals. Unquestionably the patients in such hospitals must be regarded as paupers.

The County Infirmaries, which were in the last century established in Ireland, by grants from the Grand Juries and private subscriptions, still, with one or two exceptions, exist. They are, no doubt, charitable institutions, but the

patients are not regarded as paupers. It is to be hoped that the new County Councils will maintain these infirmaries as public institutions, and that, so far as the fever wards or fever infirmaries are concerned, the general public will have a right of admission to them.

UNSATISFACTORY STATE OF THE HOSPITAL QUESTION IN DUBLIN.

At present the position of affairs in Dublin as regards accommodation for fever patients is most unsatisfactory. Why it is so I shall try to make clear.

The Guardians of the South and North Dublin Unions have never provided fever hospitals, because they relied upon the Hardwicke and Cork-street Fever Hospitals. Into these institutions they sent the inmates of the workhouse when they became affected with fever. The Guardians also arranged with these hospitals for the reception of patients who were not inmates of the workhouse.

Cork-street Fever Hospital is maintained by means of an annual Parliamentary grant, a yearly grant from the Corporation, a contribution from the Hospital Sunday Fund, private subscriptions, and revenue from funded property. The Hardwicke Fever Hospital is chiefly supported by a Government grant.

In the financial year ended on the 29th September, 1898, the South Dublin Board of Guardians paid to Cork-street Hospital £2,763 4s., and in the year ended 29th September, 1897, £3,000. In the year ended on the 25th March, 1899, the North Dublin Board of Guardians paid the hospital £450 5s. 6d.

The Hardwicke Hospital received, in the year ended 23rd March, 1899, £1,128 3s. 6d. from the North Dublin Union.

Thus it will be seen that these two fever hospitals received, in one year, £4,341 13s. for the treatment of fever patients who were inmates of the workhouses, or were admitted from the tenement houses.

The Local Government (Ireland) Act divested the Boards of Guardians of all their sanitary powers; and in the opinion of The MacDermot, Q.C., and Mr. Matheson,

Q.C., they are not empowered to pay for the maintenance of non-pauper patients in other than the workhouse hospitals. Their sanitary functions were in part transferred to the District Rural Councils and in part to the Corporation of Dublin.

POWER OF SANITARY AUTHORITIES TO PROVIDE FOR THE TREATMENT OF PATIENTS.

Under the provisions of the 155th and 156th sections of the Irish Public Health Act of 1878, a sanitary authority can construct a hospital and maintain it, or can contract with hospital authorities for the maintenance of patients. Of course it is only for fever or cholera patients that such a contract would be made.

THE CORPORATION THE ONLY AUTHORITY LEGALLY EMPOWERED TO PAY FOR PATIENTS.

The Guardians being debarred from making contracts with the fever hospitals for the treatment of patients other than the workhouse inmates, the Corporation are now the only sanitary authority legally empowered to take their place. But in their case this duty is permissive, not mandatory. It is a deplorable state of things that even if an epidemic of smallpox were raging in Dublin, it is not obligatory on any authority to provide hospital accommodation, unless the Local Government Board declares that an epidemic prevails. It is to be hoped that immediate legislation will remedy this serious defect in our sanitary code.

HAVE WE SUFFICIENT ACCOMMODATION FOR FEVER PATIENTS?

Fever cases are treated in two special and six general hospitals, and in ordinary times these hospitals afford sufficient accommodation for the wants of the city and suburbs. During epidemics there is not by any means a sufficient number of beds in the fever hospitals and fever wards of the general hospitals.

During the severe epidemic of measles now nearly come to an end there was a lamentable want of accommodation

for the patients, as every dispensary physician in Dublin can testify. Children were allowed to remain in tenement houses, every room in which was occupied by a whole family. Had the dispensary physicians the means of promptly sending every child affected with measles to hospital the mortality caused by that disease would have been much less than it proved to be, and the cases fewer.

Like the vast majority of sanitarians, I hold to the opinion that infectious diseases, except, perhaps, enteric fever and pythogenic pneumonia, should be treated in special hospitals isolated as far as practicable from other buildings. Still I recognise the great importance of the general hospitals as clinical schools, and also the fact that many of our greatest physicians, such as Graves, Marsh, and Stokes, who have enlarged so much our knowledge of fever and its treatment, were students and teachers in those general hospitals which have fever wards. The patients in general hospitals have the advantage of being under the care of the ablest physicians in this city. The same observation applies to the fever hospitals.

If for the first time we were about to establish special fever hospitals, they would not be placed within the city limits, but two hospitals of the kind have existed for many decades in the city, and have rendered incalculable services to the poorer classes of the population. I have never proposed that they should be abolished, though I do not think their positions altogether suitable. I do, however, assert that during epidemics they do not, even with the aid of the general hospitals, provide sufficient accommodation.

The Corporation have the power to provide both hospitals and homes for convalescents. In view of the opposition offered to the proposal to establish isolation hospitals, it might be more politic for the Corporation to establish a home for convalescents from infectious diseases, to which the various hospitals could send their convalescing patients. Were this home provided the accommodation in the hospitals for acute cases would be largely increased. For example, scarlet fever patients are on the average kept six weeks in hospital, but they could with safety be removed to a convalescent home in three weeks.

SMALL-POX.

When small-pox appeared in Dublin in 1886, I addressed a circular letter to the authorities of the general hospitals, begging of them not to treat cases of that disease. They promptly agreed not to admit such cases. A large number were admitted into the two fever hospitals, which very soon were filled, and after considerable and dangerous delay sheds were erected by the South Dublin Board of Guardians, and a large number of small-pox patients received into them.

I think few will venture to deny the desirability of treating small-pox in a special hospital, and few will also be found to regard the precincts of a workhouse as a proper place for a hospital which must necessarily be used by persons far above the pauper class. If small-pox were to become epidemic in Dublin there is no proper hospital to receive the patients. They should not be treated in the ordinary fever hospitals, nor in workhouse sheds. The Corporation, as the sanitary authority of Dublin, are morally bound to provide a site on which sheds for small-pox patients could be erected when required, and which sheds should be burned after the epidemic had ceased.

THE INFLUENCE OF SCHOOLS IN SPREADING DISEASE.

There is very little doubt as to scarlet fever and measles being spread by means of the primary schools. In England the sanitary authorities have the power of closing schools during epidemics; in Ireland they have no such power, but I hope that the next general Public Health Act for Ireland will give it to them. There seems to be little benefit obtained by closing schools when an epidemic is far advanced; the proper time to close them is at the beginning of one.

Notifications of the occurrence of infectious diseases are sent to the managers of schools as confidential documents, but upon which they may act to prevent children from infected houses attending their schools. I am bound to say that many school managers closed their schools at the request of the Public Health Committee during recent infantile epidemics.

NOTIFICATION OF INFECTIOUS DISEASES ACT.

It is to be regretted that this Act is one which may or may not be adopted by the sanitary authorities. Like every other permissive Act relating to the public health it was at once adopted by the Corporation of Dublin, and soon after by the Pembroke and Rathmines Township Commissioners. It ought to be a mandatory Act, as undoubtedly its provisions are calculated to arrest the spread of infection.

The medical profession have achieved great success in the domain of Preventive Medicine, and although their professional *raison d'être* depends upon the existence of diseases, they do their very best to stamp out all that possibly admit of extinction. I regret, however, to be obliged to admit that as regards the notification of infectious diseases many physicians not only neglect to notify, but are utterly opposed to the principle of notification. In the year 1899 there were about 350 medical men in Dublin, and of these 168 sent notifications of various infectious maladies. Of the 350 medical men some were not engaged in private practice, others may not have had any fever patients, and perhaps a few surgeons and gynæcologists did not treat fever cases; still it is evident that a large number of practitioners did not notify.

When it was first proposed that medical men were to give certificates as to the Cause of Death, much indignation was excited, and authorities from the time of Hippocrates were quoted to prove that to issue such certificates would be a gross breach of medical etiquette. No medical man now objects to give a certificate of the Cause of Death, and I trust, in the fulness of time, the same will be the case as regards Notification of Infectious Diseases.

I cannot quite understand why the general public do not universally see the great benefit to the community resulting from notification, and the infinitesimal injury which it causes to them. Notifications are regarded as confidential documents, are seen by two or three officials, and are only communicated, as regards infectious diseases of children, to the managers of the primary schools, who are requested to regard them as confidential.

If the medical man marks on the notification form that "no immediate attention" is necessary, no action is taken for some days by the sanitary authority. Then a letter is sent to him, asking whether or not disinfection of the infected dwelling can be performed, and if he replies that he will see that process performed himself, that is the end of the case.

If persons do not desire their dwellings to be disinfected during the day, as it might attract attention, it is performed at night or very early in the morning.

I may here mention that the following cases were notified in Dublin in 1899 :—

Typhoid fever - - -	1,727
Continued fever - - -	342
Erysipelas - - -	579
Scarlet fever - - -	515
Typhus fever - - -	39
Puerperal fever - - -	7
Croup - - -	14
Measles - - -	5,554
German measles - - -	11
Diphtheria - - -	174

The medical men, notably the dispensary physicians, who always notify, are placed at a disadvantage, because many persons knowing that they comply with the law consult those practitioners who continually break it.

HOUSING OF THE VERY POOR.

It was upon the reading of a report of mine that the Municipal Council, nearly twenty years ago, adopted and put into force the Artisans' and Labourers' Dwellings Act. Since then I have repeatedly pleaded the cause of the very lowest strata of our population, and the term, the very poor, which I have used in reference to them I notice is being generally adopted. It is, of course, desirable that the artisan class should have healthful and sufficiently commodious dwellings, but if the municipality do not provide them, building societies and private builders supply to a great extent the want. In the case of the very poor, who can afford no higher weekly rents than from one to

two shillings a week, their dwellings are, with few exceptions, in a deplorable state. Many of their landlords are but little superior in pecuniary resources to their tenants, and are unable to make costly improvements in their wretched tenement houses, of which they are merely leaseholders or yearly tenants.

The black spots in Dublin are nearly altogether situated in the areas occupied by one to two shillings per week tenants. Several of these black spots have been improved, in so far as the houses and ground are concerned, but the condition of the inhabitants has not been ameliorated. The houses which have replaced the squalid, insanitary dwellings are occupied by a different class of tenants, who pay higher rents. Not only have the squalid dwellings disappeared from the insanitary areas, but also the people who dwelt in them. These unfortunates have migrated to other insanitary areas, or to some semi-sanitary areas, which they have converted into wholly insanitary ones. I think I may safely assert that not one of the families who were removed from insanitary areas ever returned to them after they had been cleared and new dwellings erected upon them.

Of the 375 separate dwellings which the Corporation have erected on cleared areas, which had once been insanitary, only 23 are let at 1s. 6d. per week.

As the dwellings of the poorest classes are the hotbeds of the seeds of infectious diseases, and as the vitality of their inmates is lowered by the unhealthy conditions of their homes and environments, we cannot wonder that the very poor readily succumb to constitutional diseases, and are peculiarly susceptible to infection. The high death-rate of Dublin is due, not to an undue amount of infectious diseases, but to the great mortality of the poorer classes, more especially of the adults. In 1898 the death-rate amongst the professional and independent classes (population 15,579) was 20 per 1,000 persons living, whilst it was no less than 31·8 amongst the 83,472 "hawkers, porters, labourers, &c."

What is urgently required in Dublin is the improvement of the dwellings of the very poor, without increasing, except, perhaps, to a small extent, the rents which they

now pay. No doubt this improvement would involve a considerable expenditure of money (certainly not less than a quarter of a million), but if the money were judiciously expended there would be a fairly good revenue from rents of the houses.

I may here mention that the Corporation have provided 375 dwellings, occupied by 1,544 persons, the Urban Council of Rathmines 58 dwellings, inhabited by 277 persons, and the Pembroke Urban Council 115 dwellings, accommodating about 500 persons. The Dublin Artisans' Dwellings Company have provided for nearly 10,000 persons, the City and Suburban Artisans' Dwellings Company have 284 dwellings, and the Industrial Tenements' Company 46 dwellings.

A large number of dwellings for the working classes will soon be erected by the Corporation on the Bride's-alley area, and by Pembroke Urban Council at Donnybrook and Ringsend. Lord Iveagh is completing the clearance of the unheathly Bride's-alley area, and upon the cleared site dwellings for working classes will be erected. This noble work will cost at least a quarter of a million.

The Company for the Housing of the Very Poor, of which the Right Hon. Joseph M. Meade is Chairman, will soon be in a position to provide 48 families with dwellings at rents not exceeding 2s. a week. I trust that this company may receive substantial support from the money-investing public, for a fair interest on their capital may be assured.

The families in the Dublin tenement houses and other dwellings regularly inspected by the sanitary officers number 32,000, and of these a very large proportion require better lodgings. It is inexpedient to add to the enormous number of insanitary dwellings already closed until provision is made for the reception of the occupiers of the unhealthy houses that still remain. In concluding this part of my Address I may point to Edinburgh as a pattern for Dublin. The former high death-rate in that city has been brought to a very low one, and this improvement, it is stated, is chiefly due to the fact that £560,000 were expended in improving the dwellings of the working classes.

TUBERCULOSIS.

Tuberculosis of the lungs is a peculiarly fatal disease in Dublin, about 34 persons per 10,000 perishing annually from it. Tuberculosis attacks other organs, and causes much of the high mortality incidental to the earlier periods of life. That it is an infectious disease is now generally admitted, but that it should be included amongst those that are notifiable is hardly expedient. Information as to its infective character should be diffused as widely as possible. After the death or removal of a consumptive patient, the apartments which he or she had occupied should be disinfected. This purification is performed by the Dublin sanitary authority, but only occasionally, as the deaths from tuberculosis are rarely notified for the purpose of disinfection.

The communication of tuberculosis through the media of meat and milk is a threshed-out subject, on which I shall make only an observation or two. I am of opinion that the dairy cows of Dublin are not much affected with tuberculosis—much less than are the cows of the large English towns. This is due to the fact that the latter are kept in the cow-house until they cease to give milk, whilst the former are depastured for six or seven months in the year.

It is important to ascertain whether or not the udders of dairy cows are free from tubercular ulcers. I am glad to be able to state that the Public Health Committee have recommended the Corporation to secure the whole time-service of a veterinary surgeon for the purpose of examining the dairy stock.

I trust that the influential Committees which have been formed in London, Dublin, and other towns, with the object of investigating the causation and prevention of tuberculosis, will be able to grapple with this scourge of mankind, and lessen its terrible ravages. It will be within the *rôle* of the municipalities to assist those committees by carrying into effect their recommendations, if it is in their power to do so.

CONCLUSION.

It now remains but to thank you for your patient hearing

of my discursive Address, to wish continued prosperity to that great Society of which we are the not least important branch, and to express the hope that we may all meet again later in the day to discuss subjects much more agreeable than those unsavoury ones which I have ventured to place before you.

ART. X.—*Clinical Reports of the Rotunda Hospitals, for One Year, November 1st, 1898, to October 31st, 1899.* By R. D. PUREFOY, M.D. T.C.D., F.R.C.S.I. (Master); and R. P. R. LYLE and H. C. LLOYD (Assistants).

DURING the twelve months comprised in this Report 1,889 women were admitted to the Maternity Department, of whom 1,591 were confined and 298 discharged, not being in labour. 2,163 patients were treated in their own homes.

TABLE NO. I.—*Admissions to Maternity Department.*

—	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Total
Total deliveries -	105	128	126	110	121	134	138	126	129	149	132	134	1,532
Total abortions -	2	5	2	6	5	6	6	3	3	7	10	4	59
Total cases treated	107	133	128	116	126	140	144	129	132	156	142	138	1,591
Patients discharged not in labour - -	5	23	28	19	26	32	36	29	31	18	29	22	298
Total admissions	112	156	156	135	152	172	180	158	163	174	171	160	1,889

TABLE NO. II.—*Dispensary for Out-door Patients.*

Number of first attendances, - - -	4,810
,, repeated ,, - - -	5,358
Total, - - - - -	10,168

TABLE No. III.—*Showing Nature and Number of Cases Treated in the Extern Maternity*, 1898–99.

Total number of cases	2,163	Multiple pregnancy, twins—	
Abortions	284	Female	9
Hæmorrhage—		Male	8
Accidental	5	Male and Female	14
Placenta prævia	9	Operations—	
Post-partum	25	Curetting for abortion	136
Hydramnios	7	Forceps	24
Eclampsia	1	Manual removal of placenta	21
Fœtal abnormalities—		Version	13
Anencephalus	3	Presentations—	
Hydrocephalus	3	Breech	47
Mania	1	Brow	1
Mortality, infantile—		Face	7
Macerated	16	Footling	4
Non-viable	7	Head and arm	3
Premature	11	Occipito-posterior	12
Recent	52	Shoulder	2
Mortality, maternal	8	Transverse	7
		Prolapse of funis	5
		Uterine inversion	1

EXTERN MATERNITY—INTERESTING CASES.

CASE I.—M. F., aged thirty-eight, 7-para. Brow presentation. Labour had continued for many hours, and maternal pulse was 108. Anterior fontanelle was felt lying to the back, and nose and eyeballs readily reacted in front. Podalic version was performed, and a living child delivered. There was some post-partum hæmorrhage.

CASE II.—M. C., aged thirty-five, 8-para. *Placenta prævia centralis.* Pregnancy dated $7\frac{1}{2}$ months. Hæmorrhages for 14 days; os size of a four-shilling piece. Placenta was perforated, version performed, and delivery left to nature. Child was expelled in an hour, dead. Recovery of mother good.

CASE III.—M. C., aged forty, 13-para. *Placenta prævia lateralis.* Internal version easily performed, though most of the liquor amnii had escaped. Delivery left to nature; child $7\frac{1}{2}$ months, born alive. Convalescence good.

CASE IV.—*Inversion of uterus.* R. O'B., aged twenty-seven, 2-para. There was some hæmorrhage following the birth of the child, and the student in charge expressed the placenta, and

immediately noticed a dark-coloured tumour protruding from the vulva, and sent for the Assistant on duty. This proved to be the fundus of the completely inverted uterus. The margin of the os externum could be felt above the pelvic brim. Some membranes were peeled off the fundus, and it was replaced by making pressure upwards digitally on the centre of the protruding portion. There was some difficulty on account of the contraction of the internal os, but this gradually dilated, and the fundus could be felt through the abdominal wall bulging through the cervix. Complete reposition took place suddenly immediately afterwards. Contractions were good, and no hæmorrhage occurred throughout. The convalescence was normal.

Case V.—M. F., aged thirty-nine, 3-para. *Partial inversion produced by midwife pulling vigorously on cord.* Placenta retained 2½ hours, and considerable hæmorrhage. Placenta adherent; manually removed, and hæmorrhage ceased.

Case VI.—*Impacted breech and rupture of vagina.* M. G., aged thirty-six, 12-para. Had difficult labours with all her children, instruments being required on each occasion, and latterly they had become still more difficult. Breech presenting, labour went on with strong pains, and though the cervix dilated and became retracted the presenting part descended only partly into the pelvis, and was there arrested by a prominent ridge running transversely across the middle of the sacrum. Pains were good and patient's condition favourable, so labour was permitted to go on for two hours. She had made no advance by this time and was straining violently, so an attempt was made to deliver the breech by traction with the finger in the groin. Directly a pain forced the presenting part downwards the finger was jammed against the ridge of bone and became powerless. As this failed a catheter was with difficulty passed over the posterior groin, but it was impossible to draw the fillet of gauze back. The open hand was then, with the patient under chloroform, passed gently behind the symphysis, and in doing so a rent was felt in the vaginal wall just outside the cervix. A foot, which rested on the symphysis, was carefully brought down and the breech delivered with difficulty. Further trouble was experienced in bringing the arms down on account of the pelvic deformity, and the head was delivered by Smellie's method, with strong downward pressure on the fundus. The fœtal heart was still beating feebly, but the child could not be resuscitated. On further examination the rent was found to invade half the circumference of the vagina, extending completely through the right lateral fornix.

Through this rent the hand passed into what appeared to be a cavity with some fluid blood in it, and the uterus was felt firmly contracted, distorted somewhat to the left side. This space, which was manifestly inside the broad ligament, was douched out, and packed with iodoform gauze. The puerperium was uneventful. The gauze was gradually removed, the last of it being taken away on the 3rd day, and the patient left her bed on the 12th day in good health. (We refer the reader to a paper on this subject by M'Clintock, *Dublin Quarterly Journal* of May, 1866.)

Case VII.—K. N., aged twenty-four, 2-para. Of interest from the fact that the fœtus, which was macerated and lying transversely, was born by spontaneous evolution. There was a temperature of 104° F. on the 3rd day, which fell to normal on appropriate treatment.

Case VIII.—M. D., aged twenty-six, 4-para. Normal labour and puerperium until 8th day, when patient on getting up had a severe secondary hæmorrhage. When seen pulse could not be felt at wrist, heart beat 130 per minute. She was under the influence of alcohol. The uterus, which was sub-involuted, was curetted and some decidual fragments removed. Recovery good.

Case IX.—C. L., aged thirty, 10-para. *An incomplete abortion at* $3\frac{1}{2}$ *months.* In curetting this patient (after an unavailing attempt to remove the contents with the finger) the curette, which was not a good shape, perforated the fundus of the uterus. After thorough evacuation of the cavity, it was plugged with iodoform gauze. The patient, who was somewhat collapsed, rallied well and passed through a normal puerperium. The gauze was removed on the 2nd day.

Case X.—A. D., aged twenty-eight, 6-para. Pregnant $6\frac{1}{2}$ months. Considerable post-partum hæmorrhage took place from an extensive erosion. Controlled by hot douche and ergot.

Case XI.—M. K., aged thirty, 4-para. The right labium was exceedingly friable, and infiltrated with malignant disease. There was in it a vessel of considerable size, the bleeding from which was only controlled by a needle and figure-of-eight suture.

Case XII.—M. M., 4-para. Normal labour. Severe secondary hæmorrhage on 10th day on sitting up. Uterus subinvoluted, with

cervix patulous. Some shreds of secundines were removed by Rheinstädter's curette.

Case XIII.—K. H., aged forty-seven, 18-para. *Cephalic version.* Twins; first child delivered, and 1½ hours later hand of second appeared at the vulva, and assistance was sent for. Examination showed that the head was lying in the left iliac fossa and the shoulder in the cervix, and the uterus closely applied to the body of the child, the liquor amnii having completely escaped. The shoulder was gently pushed to the right side under chloroform, the arm replaced, and the head brought over the cervix. Rapid delivery ensued. The placenta was completely detached, and with it a quantity of blood escaped from the uterus.

EXTERN MATERNITY—MORTALITY.

Case I.—M. B., aged thirty-eight, 10-para. *Accidental hæmorrhage.* Had slight pains at 10 a.m., and at 5 p.m. a small quantity of hæmorrhage took place, and was followed at 6 30 p.m. by severe flooding. Assistance was then sent for, but patient died at 7 30, undelivered, soon after arrival of student. She was moribund when first seen. *Post-mortem* examination proved the placenta to be completely detached, and a quantity of free blood was in the uterine cavity. Other organs were healthy.

Case II.—E. B., aged thirty-five, 5-para. *Air embolism.* This patient, 48 hours in labour, delivered herself of a full time stillborn child. The placenta was retained, and there was considerable hæmorrhage. The pulse was good. She was very violent and resisted treatment. After removal of placenta and membranes and administration of a hot douche the binder was applied, as the uterus was firmly contracted, and she was put back to bed. A few minutes afterwards she suddenly threw herself to the other side of the bed, the respiration ceased, and heart beat could no longer be felt. Artificial respiration was performed for a considerable time without avail. No anæsthetic had been administered.

Case III.—M. D., aged forty-four, 16-para. *Placenta prævia lateralis.* In this case there was severe hæmorrhage at 5 a.m., and when seen at 8 15 a.m. the patient was pallid and radial pulse hardly perceptible; os admitted four fingers, and vertex presented. The placenta could be felt on the left side about one inch from the os internum. Hæmorrhage was still continuing. Podalic version

was performed, and on drawing the foot down hæmorrhage ceased. A tight binder was applied, stimulants and hypodermics of strychnin were administered. She was allowed to rest until 11 a.m. Pains came on fairly strongly and frequently, but considerable difficulty was experienced in the delivery of the child, which was stillborn. Restorative means proved unavailing.[a]

Case IV.—S. C., aged thirty, 5-para. *Post-partum hæmorrhage.* The placenta was retained for two hours, during which time hæmorrhage was going on before the handy woman in charge sent for assistance. The hæmorrhage had been very profuse, and patient was exceedingly anæmic and pulseless. The placenta was removed manually. The uterus, which refused to contract under hot douches or bimanual massage, was plugged with iodoform gauze. Hypodermics of strychnin and digitalis were given, and brandy by mouth and rectum, with one pint of warm water, but without avail.

Case V.—J. D., aged forty, 14-para. *Post-partum hæmorrhage.* After eleven hours' labour patient delivered herself; the placenta followed in seven minutes with severe *post-partum* hæmorrhage, which persisted notwithstanding the usual remedies, and patient sank so rapidly that a *post mortem* examination was made, but nothing found to account for the sudden death.

Case VI.—M. P., aged twenty-one, 1-para. This woman was delivered after a normal labour lasting only twelve hours. On the second day there was a temperature of 104° F., and pulse 140. A uterine douche was given, but patient refused to allow curetting. On the third day Rheinstädter's curette brought away some membranes and blood clot, temperature then being 105° F., and pulse 126. The uterus was plugged with iodoform gauze daily, but there was little improvement, and patient gradually sank and died on the 16th day of sepsis.

Case VII.—H. S., aged thirty-seven, 3-para; was in the hands of a "midwife," who permitted the placenta to remain *in utero* with hæmorrhage going on from 10 a.m. to 6 p.m., and then sent to the hospital. On arrival the Assistant found that the placenta required manual removal. The woman was blanched and almost

[a] We think that in this case it would have been better had more time been allowed for the natural efforts to effect delivery, as is the routine treatment of the hospital.

pulseless. No hæmorrhage occurred after the third stage was completed. The temperature after she was put back to bed was 99° F., and next day 103·6° F. The uterus was douched and plugged with iodoform gauze, but she died on the third day of septic peritonitis.

TABLE No. IV.—*Showing Number and Nature of Cases Treated in the Intern Maternity*, 1898–99.

Total number of cases	1,591
Primiparæ	529
Abortions	58
Deformed pelvis	13
Eclampsia	5
Epilepsy	1
Galactorrhœa	1
Hæmorrhage—	
Accidental	16
Placenta prævia	9
Post-partum	18
,, secondary	2
Hæmatoma vulvæ	1
Hydramnios	13
Hyperemesis	2
Insanity—	
Mania	3
Inversion of uterus (partial)	1
Morbidity	139
Moles, hydatid	2
Mortality, maternal	10
Mortality, infantile—	
Macerated	30
Putrid	1
Premature	19
Non-viable	10
Recent	26
Died in hospital	30
Multiple pregnancy—	
Twins—	
Female	2
Twins—*con.*—	
Male	12
Male and female	11
Triplets	1
Myoma uteri	7
Operations—	
Forceps	66
Induced abortion	4
Induced labour	6
Craniotomy	1
Manual removal of placenta	20
Porro's operation	1
Version	14
Pathological conditions of infants—	
Anencephalus	1
Cephalhæmatoma	4
Congenital dislocation of knee	1
Hydrocephalus	1
Imperforate anus	1
Icterus (during 6 months)	124
Mastitis	1
Ophthalmia	9
Spina bifida and talipes	10
Hare-lip and cleft palate	2
Hypospadias	1
Physometra and embolism	1
Presentations—	
Breech	78
Brow	2
Face	5
Footling	3
Hand and head	2
Occipito-posterior	24
Shoulder and transverse	10
Prolapse of funis	12
Puerperal ulcer	4
Rupture of uterus	2

Case VIII.—A. G., 11-para. *Hæmorrhage.* Patient five months pregnant. When first seen, almost exsanguine. The placenta, which was still *in utero* and adherent, was removed with finger and Rheinstädter's curette, and ergot and strychnin were given hypodermically. Hæmorrhage ceased, but patient, who was very collapsed, gradually sank and died six days later. The temperature remained normal throughout.

ABORTIONS.

There were 55 abortions treated during the year. In incomplete abortion, where possible, the contents of the uterus were removed by the finger, and, failing complete evacuation, Rheinstädter's flushing curette was used. This latter treatment was found necessary in 34 of the cases; only one of these requires to be recorded in the Table of Morbidity—in her case one rise of temperature only occurred, and that on the third evening. This case was one of apoplectic ovum.

In ten cases the ovum was removed by the finger; one of these had a temperature of morbidity on the third evening, rising on the fifth to 104·8° F. The rise of temperature was ushered in by a rigor, after which she was curetted and plugged with iodoform gauze daily until normal again.

In six cases the abortion was complete and no treatment was required.

The remaining two cases were vesicular moles, at two and two and a half months respectively. In the latter case the temperature was 103° F. on admission, but fell to normal on evacuating the uterus, which was as large as one of a four months' pregnancy and contained typical hydatid-like bodies.

DEFORMED PELVIS.

Of these thirteen cases, five will be found fully recorded under "Induced Labour," *q.v.* In six delivery was effected by forceps. In one, with conjugate of 7 cm., a living child weighing 7 lbs. was extracted with forceps; the measurements of its head after delivery corresponded to those of the pelvis. She was 43 hours in labour and had a normal convalescence.

One patient, a 6-para, with a history of four stillborn children, followed by an induced labour in the hospital in 1898, which terminated satisfactorily by version, had a conjugate of 8·75 cm. She came from Co. Kerry, and was at full time, with labour just commencing. Her pelvis was generally contracted, the transverse measurement being 10·5 cm. The os dilated fully with head still above the brim, the membranes were, therefore, punctured, and two and a half pints of stained liquor amnii escaped. The head then engaged at the brim, and as the pains were strong and the condition of patient and fœtus good a tight binder was applied. An hour later, however, the patient became suddenly unconscious, pulse scarcely perceptible and extremities cold. As the head was not yet fixed combined version was performed, and the breech delivered with some difficulty. The arms were extended, and the posterior one was brought down after some trouble, but it was found impossible to rotate the body of the child, and the finger could be passed no further than the middle of the upper arm, where considerable force had to be expended before delivery took place. The head followed readily. The child was born in asphyxia pallida, but recovered in a remarkably short time. Ether had been administered to the patient during the operation, and the child exhaled the odour of the anæsthetic for fifteen hours.

The second case of version is described fully under "Prolapse of Funis."

The remaining cases were minor degrees, and delivered themselves naturally.

ECLAMPSIA.

Four cases were treated during the year. They are as follows:—

Case I.—E. L., aged twenty-two, 2-para. Seven months pregnant. Was admitted from the country with lower limbs and vulva enormously œdematous. The right labium had ruptured, and serum was escaping from it. The abdominal walls were also œdematous and pitted readily, and the face was pale and puffy. It was extremely difficult to pass a catheter, and three ounces of thick, dark-coloured urine, of specific gravity of 1015, were withdrawn. Patient was given a steam bath, in which she was kept

for half an hour, and Pulv. Jalap. Co. grs. xl. and Hydrarg. Subchlor. grs. v., the Pulv. Jalap. being repeated in two hours. A poultice was applied to the loins; Tinct. Digitalis ♏ x. every four hours, and milk diet. Early next morning Mist. Sennæ Co. ℥ii. was given, and was followed by a free evacuation of the bowels. The amount of urine passed steadily increased, and the albumen decreased with a gradual disappearance of the œdematous condition until the sixth night, when she had some vomiting and severe frontal headache, with loss of vision and some incoherence. Hot jars were placed about her and her condition improved somewhat, but the urine went solid on boiling. A steam bath was given and one-sixth grain of morphia. Labour pains were almost imperceptible, but the head was descending sufficiently to cause obliteration of the internal os. Two bougies were passed into the uterus, and one and a half hours later good pains set in. In about six hours she had an eclamptic seizure, lasting five minutes; half a grain of morphia was given. The urine contained pus, tube-casts and squamous epithelium. There was at this time some strabismus of the right eye. Eight hours later she had another fit lasting five minutes, and as the head was on the perineum forceps were applied and delivery effected, the child recovering under treatment. After delivery the patient slept for two hours and woke up perfectly rational. The catheter was passed and 14 ounces of urine withdrawn, and during the succeeding 21 hours 102 ounces were obtained. It contained only a small quantity of albumen. The third day her condition was much improved, and she passed 70 ounces of urine. Her progress continued good until the 6th day, when she had a slight shivering, and the temperature ran up to 102·6° F., with pulse 156. A uterine douche was given, but nothing could be found to account for the pyrexia. On her 7th day there was a patch of redness on the right buttock, and this gradually extended along the cutaneous surface from the labium, which had ruptured. Next day it was erysipelatous in character, with raised edges and some induration; there were small vesicles over it, and a stinging sensation was felt. The perineum, which had been sutured, remained healthy. On the 11th day all sign of redness had disappeared. Fluid from the vesicles gave cultures of streptococci, which formed only small clumps, and were evidently not very virulent. Some induration was found high up in the broad ligament on the left side, and she had some pain, which was easily relieved by fomentations. The urine contained a large deposit of pus. Next day (12th) the temperature rose to 104° F. in the evening, and thereafter it gradually fell to normal on the

16th day, and she left hospital on the 17th against advice. Treatment consisted in cleanliness, free use of whisky, and large quantities of fluid nourishment, with administration of iron.

Case II.—M. F., aged twenty-eight, 1-para. Five months pregnant. A pale, delicate woman, had two "fits" before admission, and one lasting three minutes soon after she came in. The bladder contained 12 ounces of urine, which became solid on boiling. She had only slight œdema of the feet. She was given a steam bath, was freely purged, and kept on milk diet for six days, when she went out of the hospital much improved. This patient returned in four weeks, and delivered herself of a macerated fœtus without any difficulty. The puerperium was normal, and the urine free from albumen.

Case III.—M. F., aged twenty-two, 1-para. Admitted with general anasarca, vomiting, and extreme pallor. Had her bowels freely moved, and was kept on milk diet. The second day, when having feeble labour pains, she had an eclamptic seizure lasting two minutes. The os was then the size of a five-shilling piece, and membranes unruptured. She had a second fit of the same duration in two hours. The urine was scanty, and loaded with albumen. After a hypodermic of a quarter of a grain of morphia she slept quietly for one and a half hours, after which the infant was expelled alive with one pain. Convalescence was uneventful.

Case IV.—T. M., aged twenty-three, 1-para. Labour had just commenced. One hour after admission had an eclamptic fit lasting two minutes, and one and a quarter hours later a second one, lasting two and a half minutes. She had a pale, pasty face, very slight puffiness about the feet, and scanty urine, containing a large quantity of albumen. She sought admission on account of a slight hæmorrhage occurring on the onset of labour, but no history of premonitory symptoms could be obtained. She was given half a grain of morphia, repeated in quarter-grain doses hypodermically every two hours until one and a half grains had been given. Croton oil ℳiii., which was repeated ℳi. in three hours as there was no result, and this had to be followed by an oil enema in four hours, which produced a good result and watery stools for some time after. In addition she had a steam bath, producing profuse sweating, and these were repeated twice daily. Milk diet and diuretics were also administered. Examination after the first fit proved the cervix to be hard and undilated. She was seven months pregnant and no fœtal heart was heard. There were no more fits,

and she came into labour during the early morning of the third day in hospital. Labour lasted one hour, and she expelled a dead fœtus weighing 3 lbs. Convalescence was uneventful.

Case V.—M. R., aged thirty, 1 para. Seven and a half months pregnant, and living at Rathfarnham; had some pains during the night, and thinking that labour was coming on walked with her husband some miles into the town, where she took a car and drove to the hospital. On admission she appeared to be in good condition, and was accordingly given the usual warm bath and put to bed. Some hours afterwards she had a fit, not typical of eclampsia, as she attempted to strike any one coming near her. It lasted one minute. No urine had been passed since admission, and the catheter withdrew 4 ounces of highly blood-stained urine, which became solid on boiling. Forty minutes later she had another fit, which lasted two minutes; and as this resembled an eclamptic seizure she was given half a grain of morphia and a vapour bath. She did not again become conscious, fits occurring every 45 minutes. Croton oil ♏iii. was given without effect, quarter of a grain of morphia in four, and then two, hours, and steam baths twice repeated. The pupils, which were pinpoint, dilated widely while the fit lasted, and the temperature rose to 102·2° F., and later to 106·6° F., with a pulse of 134. She had in all 13 fits, the longest of which lasted five minutes, and these gradually became shorter till the last, which was only 30 seconds, and for three hours before death there were none. Respiration was 28.

The vaginal examination made during the day showed the os to be sufficiently dilated to admit a finger, the membranes were unruptured, and the cervix not obliterated. During the afternoon, when the urine was drawn off, it was thick, and the colour of porter.

Post-mortem.—Uterus studded with small myomata, os size of a four-shilling piece, and membranes ruptured; the uterine wall was flaccid; kidneys, normal in size, very much congested. Liver extremely large, smooth on surface and nutmeg-like, with alternate patches of yellow and reddish-brown colour. The left lobe was very large, and extended to the abdominal wall on the left side; microscopically it showed the usual patches of hæmorrhage having no connection with any vascular system, accompanied by broken-down liver cells. Lungs and heart healthy.

We have described a variety of "mixed" hæmorrhage, because the gravity of symptoms is due, not to the external hæmorrhage, but to that which occurs internally; and from the fact that there is some apparent hæmorrhage, it would

be misleading to term the condition concealed accidental hæmorrhage, and it is in these cases that the application of the plug and binder is of such value.

TABLE No. V.—*Accidental Hæmorrhage.*

Name	Date	Age and Para	Variety	Treatment	Child	Remarks
M. F.	Dec. 1	38, xiv.	Mixed -	Binder -	D.	Slight external
M. M.	,, 8	29, vii.	,,	Plug and binder	D.	8 months pregnant
R. C.	,, 22	34, xiii.	,,	Induced abortion	A.	See Notes "Induced Abortion"
M. C.	Jan. 9	31, v.	,,	Plug and binder	D.	7 months pregnant
M.J.C.	Feb. 11	37, ix.	External	Left to nature	A.	Slight, blood in amniotic sac
E. G.	Mar. 9	42, x.	Mixed -	Forceps -	D.	Died; membranes ruptured on admission
S. C.	May 20	30, iv.	,,	Left to nature	D.	In labour; premature
H. M.	,, 12	32, v.	,,	Plug and binder	D.	6 months pregnant, some external
A. R.	Aug. 2	43, ix.	External	Left to nature	D.	Child macerated; pains good
M. R.	,, 10	33, v.	,,	Membranes ruptured	D.	Pains strong; os dilated
E. N.	,, 21	32, vii.	Mixed -	Left to nature	D.	No history; retro-placental clots
E. C.	,, 26	36, xi.	,,	Membranes ruptured	D.	Os dilated; pains good; P.-P. H.
E. D.	,, 29	38, xi.	,,	Plug and binder	D.	Twice plugged
M. L.	Sep. 28	30, ii.	Slight external	Membranes ruptured	A.	In second stage; pains good
M. M.	Oct. 16	38, iii.	External	Left to nature	A.	7 months pregnant; slight
A. S.	,, 28	27, ii.	Mixed	Plug and binder	A.	Slight; uterus hard; pulse, 72

As will be seen from the above table we have had a considerable number more of these cases to treat than in the previous year; and we regret exceedingly to have to record a death among the number, but this case does not influence in any way the value of the special line of treatment advocated and carried out so successfully by this hospital for some years past. The case is as follows:—

CASE VI.—E. G. Had a history of slight hæmorrhage intermitting for three days before admission. Lips pale and abdo-

minal walls thick. Vaginal examination proved that the os was undilated and the membranes ruptured, but no presenting part could be felt. Pulse 110 and temperature normal. She was given quin. sulph. grs. v., and a tight abdominal binder applied as pains were feeble. Three hours later her condition became alarming, pulse 140, restlessness and air hunger. On vaginal examination os nearly fully dilated and head entering the brim. Forceps were applied, and a macerated fœtus was delivered, followed by a quantity of black blood clot. The placenta, which was large and apoplectic, came away five minutes later. The uterus contained a large quantity of blood clot and remained dilated enormously, with flaccid walls. A uterine douche was given without result, and as the uterus failed to contract on bimanual massage the cavity was plugged with iodoform gauze and two and a half pints of saline solution introduced into the veins with some improvement, pulse falling to 120. This was only temporary, and the patient sank and died half an hour later.

Of these 16 cases it was found necessary to use the vaginal plug and binder in only 5, and in all of these the patient passed through her puerperium without a sufficient rise of temperature to necessitate recording in the morbidity table, and they all left hospital in good health from the eighth to tenth day. In one (E. D.), though the pulse was fairly strong and 84, there were the usual symptoms of hæmorrhage, occurring without warning, and, as is often the case during sleep, coming in one gush and then ceasing; pale face, hard and enlarged uterus, very tender on palpation, with an absence of fœtal heart sounds. After the tampons had been applied considerable improvement occurred in the patient's condition, and pains soon set in. As the perineum was bulging the plugs were removed. The os was only then sufficiently distended to admit two fingers. Fresh plugs were consequently introduced, and a hypodermic injection of morphia administered. After this the patient had a good sleep, and was fed with nutrient enemata, as she had some vomiting. Eight hours after the introduction of the tampons good pains set in, and plugs, fœtus and placenta, together with a large amount of blood clot, were delivered in an hour. There was no post-partum hæmorrhage.

There were some points of interest in another of these

cases (A. S.), in that, without any external hæmorrhage, the patient (near her full time) was suddenly seized with severe pain while in bed. Two hours later there was some hæmorrhage, and she sought admission. The os admitted a finger easily; the membranes were unruptured, vertex presenting. The patient's aspect was good and pulse 74, and the fœtal heart could be readily heard; but the uterus had the peculiarly hard feeling on palpation, and seemed somewhat enlarged. There were no pains; and no hæmorrhage was seen after admission. The vagina was tamponed and an abdominal binder applied, and in a few hours good pains came on, expelling the plugs and uterine contents. The placenta proved on inspection to have been detached by blood clot over an area as large as the palm of the hand. The child was alive.

The case H. M. had some hæmorrhage three days before admission, followed by faintness, and there had been intermittent hæmorrhage until admission. Though little more than six months pregnant the uterus was as large as one of eight months. The pulse was 130. The plugs in this case failed to bring on uterine contraction, but as the patient's condition improved so much after a long sleep they were removed, and she remained in hospital for eight days, when labour set in and a dead fœtus was born. There was some post-partum hæmorrhage, which was controlled by the usual means.

Another (M. R.) was admitted apparently well and in the early stage of labour. Shortly after signs of internal hæmorrhage — pallor, irregular pulse and distension of uterus—were observed, with some external hæmorrhage. The cervix admitted three fingers, and under a hot douche dilated readily with strong pains, so that all that was necessary was to rupture the membranes, and delivery of a macerated fœtus and detached placenta occurred.

PLACENTA PRÆVIA.

Case I.—A. S. A month before her confinement this patient had a hæmorrhage. Subsequent to admission hæmorrhage recurred. The os was then nearly fully dilated and the membranes still unruptured; the edge of the placenta could be felt at the right side

of the os. Combined version was performed and a foot brought down, delivery ensuing almost at once.

Case II.—M. R. Had hæmorrhage in January and repeated loss for a week before admission. A foot was very readily brought down, and delivery, which was left to nature, occurred three and a half hours later. The placenta was morbidly adherent to the lower uterine area to the margin of the os internum and was manually removed.

Case IV.—M. A. G. A twin pregnancy, with two separate placentæ, one of which overlapped the internal os.

Case VII.—R. C. This patient was driven nineteen miles from the country, and arrived in a collapsed condition, with pulse of 116. She had been attended by a midwife for severe hæmorrhage, and several vaginal examinations had been made during the 24 hours that the bleeding was going on. She gave a history of intermittent hæmorrhages for 2 months, and was about full time. The vagina was enormously distended with coagulated blood, and her clothing was saturated. After a large pewter dish full of clots was removed from the vagina, the cervix was found to admit three fingers, and the placenta could be felt overlapping half the orifice. External version was performed under chloroform, and a foot brought down, delivery following in an hour by natural efforts. The placenta was retained, and, as hæmorrhage continued, the hand was introduced, and the placenta removed. Twelve hours later the pulse was imperceptible, and temperature 103·4° F.; while auscultation gave cardiac heat 160°. Two pints of saline solution were transfused, but with little effect, the temperature being the same evening 104·2° F. A uterine douche was given, but the cavity was empty, and the walls smooth. Death occurred on the third night, the temperature having fallen and remained during the day at 101° F.

Case VIII.—S. C. Had only slight hæmorrhage. The patient was in good labour, and delivery was effected by natural efforts without trouble.

Case IX.—Was eight months pregnant. Within six weeks before admission she twice had somewhat severe hæmorrhage, and five days before admission had another very severe one. A "handy woman" was sent for, and she made several vaginal examinations. She then sent for a local practitioner, who also examined the patient, and ordered her to keep her bed. The hæmorrhage ceased for a time,

but on the third day the patient had a prolonged and severe rigor lasting ten minutes, and during which the bed was shaking. Two hours later another severe hæmorrhage came on, and the "handy woman" was again sent for, and a second practitioner, who ordered her at once into the hospital. The bleeding had been going on for six hours, and on her admission pulse was 140 and temperature 96° F.

On making a vaginal examination, the whole placenta was felt lying in the vagina, and the os fully dilated. She was put into the cross-bed position, and while being washed externally a pain expelled the placenta, the child following immediately.

Six hours later she had a temperature of 102° F., and pulse 144. The temperature continued to rise till it reached 105° next evening, and it remained at that elevation until the seventh evening, when it reached 106° F., and the patient died. The uterus was several times douched, and the Rheinstädter was used on one occasion, after which the cavity was plugged with iodoform gauze. She was given antistreptococcic serum on two occasions, at intervals of twelve hours, but as there was no reaction its use was discontinued. She was fed in the usual way with beef tea, chicken tea, and milk, with whisky ℥xvi. daily, and took the nourishment well. She was given on one occasion a wet pack, but this only brought on a hysterical attack almost resembling mania.

TABLE No. VI.—*Placenta Prævia.*

Name	Date	Age and Para	Variety	Presentation	Period	Child	Remarks
1. A. S.	Dec. 1	40, ix.	Lateral	Hand and cord	Full time	A.	Combined version
2. M. R.	Mar. 27	27, ii.	Marginal	Transverse	,.	D.	Version. Placenta adherent
3. M.E.R.	May 19	20, iii.	,,	Breech	8 months	D.	Foot brought down. Fœtus macerated
4. M.A.G.	Jun. 21	24, iii.	,,	Twins	7½ ,,	A.A.	See notes "Prolapse of Funis"
5. S. G.	,, 22	29, xi.	Lateral	—	5 ,,	—	Induced labour
6. A. B.	Aug. 14	32, xii.	,,	Vertex	Full time	A.	Pains good, 2nd stage
7. R. C.	,, 21	38, iii.	Marginal	,,	,,	D.	Death. Admitted septic. Version.
8. S. C.	Oct. 1	35, xii.	Lateral	,,	,,	A.	Hæmorrhage before admission only
9. A. T.	,, 10	32, viii.	Central	,,	8 months	D.	Death. Admitted septic

Though we have to record two deaths under this heading, we feel that we cannot be held responsible for the septic condition which produced the fatal termination, as in both cases frequent vaginal examination had been made by handy women for some days before admission. One patient had had a severe rigor the day before she entered the hospital, and both had lost a very considerable amount of blood, and one had a high temperature on admission; the other developed it within a few hours.

POST-PARTUM HÆMORRHAGE.

Of the 7 cases of severity 2 were due to adherent placenta and 1 to retained placenta with the cervix tightly contracted, so that the fingers had to be passed into the uterus for its removal. In 1 the anterior lip of the cervix was prolapsed, and the child was expressed, some portions of the membranes being retained *in utero*. One occurred in a case of arrested breech, recorded under that heading, and in which a foot was brought down after rupture of the membranes, delivery being then left to nature until the umbilicus appeared, when the arms and head required delivery; and another followed one of the cases (E. N.) recorded under "Accidental Hæmorrhage." The last had a placenta retained, which was expressed. In all these cases hot douche, massage, and ergot administered hypodermically proved sufficient, and the puerperium was uneventful.

There were 3 cases of secondary hæmorrhage. One occurred 26 hours after delivery, and another on the third day, and in both of these portions of the secundines were removed. The third was on the seventh day, and no cause could be found for its occurrence. None of them were dangerous.

HÆMATOMA.

Cases of this affection of the vulva or perineum were all mild and required no treatment. They were produced by wounds during delivery followed by subcutaneous extravasation, and became absorbed in a few days without treatment.

There was a case of hæmatoma of the cervix occurring in a 1-para, aged twenty-four, admitted in an alcoholic state, with pulse of 134 and temperature of 100°. Labour lasted

ten hours, and after delivery the anterior lip of the cervix, containing a quantity of coagulated blood, protruded from the vulva. Corrosive pads were kept on the external genitals for some days, and the swelling gradually disappeared. We refer with great interest to this case, as only 3 others have been put on record, 2 of them in the annals of this hospital.

INVERSION OF THE UTERUS.

This was a partial inversion, and was produced in a 1-para, aged twenty-six. Forceps had been applied on account of a very prolonged labour (72 hours) following early rupture of the membranes with escape of the liquor amnii. The patient was delivered as soon as she came into the second stage, as her pulse rose to 120, with fœtal heart 164. There was some oozing after delivery of the child, and a somewhat indiscreet attempt was made to express the placenta while the uterus was relaxed. This was followed by severe post-partum hæmorrhage. On introducing the hand into the vagina to remove clots a partial inversion was felt, the fundus being depressed as far as the os internum. On replacing this and giving a hot intra-uterine douche, hæmorrhage ceased. Puerperium was normal.

HYDRAMNIOS.

Six of these cases were slight; the fœtus in each case presented by the head, and the average weight was considerably over 8 lbs. None of them were in primiparæ.

Of the remaining seven, two occurred in twin pregnancies. In one there was hydramnios of the second sac only. There was also considerable œdema of the feet and legs. Both fœtuses presented by the breech. They weighed $7\frac{1}{4}$ and $8\frac{1}{2}$ lbs. respectively, and both were alive. In the second case both sacs presented the condition, and both children were born as vertex. Of the remainder, two were breech presentations—one with $1\frac{1}{2}$ gallons of liquor amnii and a dead fœtus, and in the other the child, which was also dead, had a spina bifida, and was otherwise deformed. Another case, from which a large amount of liquor amnii had already escaped, was found to have a bag of water before the head, and on puncturing this 3 pints of fluid escaped. After five grains of quin. sulph. had been given in this case

good pains set in, and a living child was expelled. From another, on puncturing the membranes, 7 quarts of fluid escaped: and after the lapse of some hours and the administration of five grains of quin. sulph., a macerated anencephalic fœtus was expelled. In the last case 6½ pints of fluid were removed, and a dead child was expelled. It had no orifice to the nostrils and no lobes to the ears, besides having unformed digits on the outer side of each hand.

HYPEREMESIS.

But two cases of this condition came under treatment during the year, and they were as follows:—

M. P., aged thirty-two, 6-para; admitted on November 14th, 1898, from one of the general hospitals, to which she had been admitted as a case of intestinal obstruction on account of incessant vomiting for two days previously. She was in a very emaciated condition, with almost imperceptible pulse. The pregnancy dated five months. On examination the os proved to be the size of a five-shilling piece, membranes ruptured, breech presenting. There was some hæmorrhage, and labour pains were absent. The tongue was dry and brown, and the face had an anxious expression. Traction was made on the breech, and a macerated fœtus weighing 1 lb. delivered. The placenta came away in pieces, a large portion of it being removed with Rheinstädter's curette. The vomiting ceased after delivery, but on the third day the patient had a temperature of 103·4° F., and a uterine douche was given with good result. On the sixth day there was a rise to 101·4° F., and the Rheinstädter removed some fragments, after which the temperature remained normal, and the patient went out on the tenth day in fairly good health.

L. L., aged thirty-two, 6-para. Seven and a half months pregnant. Admitted December 30th, with history of persistent vomiting for six days, and even water given by the mouth was returned at once. She was vomiting clear fluid on admission; had a dry, brown tongue, with enlarged papillæ; pulse was 144 and aspect wretched; face pale and pinched. The os was dilated sufficiently to admit the finger; vertex presenting and membranes unruptured. No fœtal heart could be heard. She was fed by nutrient enemata every four hours; the vomiting,

which continued for some hours, gradually ceased; after a quarter of a grain of morphia had been given hypodermically. The urine was scanty and turbid, but contained no albumen. Pains were very feeble, and came on at long intervals. The cervix was plugged with iodoform gauze and the vagina with boiled wool the next day. These were removed 24 hours later, when, as the cervix admitted 3 fingers with ease, and the membranes were still unruptured, combined version was performed, delivery taking place 3 hours later. The child was macerated, and weighed 3½ lbs. Convalescence was normal; pulse gradually fell, and patient left hospital on the 8th day.

(*To be continued.*)

MEDICAL HISTORY OF SIR WALTER SCOTT.

Bartholow discusses the physical pathological peculiarities of Sir Walter Scott, concluding that he must have had acute infantile poliomyelitis, biliary calculi in middle life and rheumatism and atheromatous disease of the arteries with capillary hæmorrhage or thrombus, producing apoplectic seizures in his later days. The autopsy, as is well known, showed softening of the corpus striatum as probably the cause of his death. The convivial habits, excessive mental labour, and worry were the contributing factors that carried him off before his time.

DILATED SMALL INTESTINE SIMULATING OVARIAN CYST.

Dr. Ashby, Baltimore (J. A. M. A.), reports a case of a woman on whom he operated for an ovarian cyst. The physical signs indicated the presence of a large ovarian cyst, which by pressure had given rise to intestinal obstruction. After the section was made the tumour was drawn through the incision and tapped. The contents of the sac had the appearance and odour of liquid fæces. The tumour had no connection with the uterus or ovaries, but was a part and parcel of the small intestine, which drained into the sac. Its only pedicle was the ileum. It had performed the function of a reservoir for the fæcal matter and was just on the eve of rupture from over-distension when removed. It became necessary to resect five inches of the intestine to remove the mass. Fortunately he had a Murphy button in his pocket, which made the approximation of the ends of the bowel a simple procedure. This patient made a slow recovery, but is now living and in good health. The button was removed on the thirty-fifth day.

PART II.

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

Anæmia and Diseases of the Blood-forming Organs and Ductless Glands. By Byrom Bramwell, M.D., F.R.C.P. Ed.; F.R.S. Ed. Edinburgh: Oliver & Boyd. London: Simpkin, Marshall & Co., Ltd.

Dr. Byrom Bramwell has been for many years an important contributor to medical literature, and all his work carries evidence of ability, patience, and a scientific mind. The present volume is not, however, an entirely new venture on the part of the author, for his "Atlas of Clinical Medicine" contains an article on each of the diseases dealt with in this book, but these articles have now been brought up to date in the many instances in which our knowledge concerning these diseases has become more complete during the interval since the Atlas appeared.

Dr. Bramwell is anxious to emphasise the fact that whatever advances have been made in regard to our knowledge of the functions and diseased conditions of the ductless glands, they are largely due to clinical observation and research. For example, since the article on myxœdema appeared in his Atlas we have learned, as he says, to treat and to cure the disease, although only eight years ago he wrote that it was "incurable;" but, thanks to the labours and experiments of Mr. Victor Horsley and Dr. George Murray, and others, he is now able to make a statement of an entirely opposite nature.

The articles in this book are all of considerable length, and when numerous illustrative cases are given and tables for comparison are added, the volume is of no small dimensions. But, while the fullest details are entered

into, so that the book must occupy a position of value to teachers and thoroughly equipped physicians, we, at the same time, feel a hankering for some of the beautiful and expressive plates which added so greatly to the charm and value of Dr. Bramwell's Atlas.

Chlorosis is the subject of a good article, especially in regard to its treatment, but we venture to take exception to the unnecessary testimonial which is given to a particular pharmaceutical firm whose capsules the author has found most serviceable.

Pernicious anæmia naturally finds the author at his best. In 1877 Dr. Bramwell figured the changes in the blood, and directed attention to the value of arsenic in the treatment of the disease, and since then he has been regarded as one of the highest authorities on the subject. Dr. William Hunter's observations in connection with the gastro-intestinal destruction of the red cells receive the attention they deserve. The fact that Dr. Robert Muir was unable to detect any organisms in the blood films from three recent cases is of interest. The pathological changes found in the spinal cord in many cases, as described by Dr. Taylor and Dr. Risien Russell, find a brief reference. To observers who, some years ago, were led to believe in the certain efficacy of treatment by arsenic it now comes as no surprise to learn that the beneficial effects of this drug are, in the vast majority of cases, only temporary; nor has the treatment by intestinal antiseptics been able to secure any lasting foothold, or to fortify the theories of causation adduced by Hunter.

The chapters on leucocythæmia deal at considerable length with the microscopical characters of the blood in the two forms of the disease, and, what is of much importance, with the differential diagnosis between this malady and Hodgkin's disease; while again, in discussing Hodgkin's disease, an exhaustive and intelligent effort is made to bring out the characteristics which distinguish that disease from scrofulous enlargement of the lymphatic glands.

In the exhaustive article on Addison's disease we find the author has given the fullest interpretation to the

disease that is possible. He recognises three clinical types :—

1. Typical and uncomplicated cases of the disease.
2. Atypical and exceptional cases—
   (*a*) Acute cases.
   (*b*) Where pigmentation is absent or slight.
3. Cases where the symptoms of Addison's disease are superadded to the symptoms of some other disease, such as phthisis.

Great prominence (in fact, it is quoted on three separate occasions) is given to a case of Finny's in which characteristic symptoms were present, but in which recovery took place. After all, why should tuberculous adrenals occasionally not recover when similar lesions in the lungs disappear, although, at the same time, while a favourable result is rare, one cannot doubt the competence of the observer in the case mentioned. Unfortunately the administration of foreign suprarenals in this disease have not been followed by the same happy results which occur in the thyroid feeding of myxœdema.

We have nothing but praise for the articles on myxœdema, exophthalmic goître, and acromegaly. As we have already mentioned, our position as regards the treatment of myxœdema has undergone a pleasing revolution within the past decade. Now we can cure it, while unfortunately we are still in the position of having to administer general tonics and give other sensible advice in exophthalmic goître and acromegaly.

As regards exophthalmic goître, we entirely agree with the author that partial excision of the gland is not a procedure which physicians are in a position to recommend. We have known a surgeon to claim beneficial results as arising from his operation which the physician was not in a position to entirely endorse, but the surgeon, nevertheless, was unwilling to verify his results by a similar procedure on other cases.

We cannot bring ourselves to find fault with a book which is so well written and so full of information, but, at the same time, one feels that there is too much to be gone through.

For the clinical physician, for the lecturer, for the hunter after reliable details the book is an excellent one, and is well in keeping with the works which Dr. Byrom Bramwell has already given to the medical profession.

The Johns Hopkins Hospital Reports. Vol. VIII., Nos. 1 and 2: On the *Rôle* of Insects, Arachnids and Myriapods, as Carriers in the Spread of Bacterial and Parasitic Diseases of Man and Animals. A critical and historical study. By GEORGE H. F. NUTTALL, M.D., Ph.D. Baltimore: The Johns Hopkins Press. 1899. Pp. 152.

THE part which insects play in the spread of infectious diseases has been the subject of much discussion, but of little accurate experimentation. It is one of very great interest, and, as the recent works of Manson, Ross, and others have shown, probably of very great importance. In the very laborious and painstaking essay before us Dr. Nuttall has collected from scattered and rather inaccessible sources all that is at present known on this matter, and has not only submitted this to much judicious criticism, but has recorded many original experiments which he has made, and which may be taken as examples of the future work which he hopes may be the outcome of his labours. Commencing with the transmission of anthrax by flies, he shows that, although there can be no question that flies can pass infective anthrax bacilli or spores through their intestines, there is a great want of accurate knowledge, founded on experiment, as to the extent to which these animals actually do transmit the disease. If this were a common mode of transmission anthrax ought to be much more frequent than it is. Experiments made with bedbugs, which were allowed to suck mice dead of anthrax, and then immediately made to bite healthy mice, gave Dr. Nuttall invariably negative results. He found, furthermore, that anthrax bacilli do not retain their vitality longer than twenty-four hours in the bug's intestine. The bacilli also die rapidly in the body of the common flea, from which the conclusion is drawn that these parasites cannot play any important part in the spread of the disease.

Nuttall has proved that flies are able to carry the infection of plague, and that they die of the disease. As they may live for several days they may well spread the disease by dropping into food, or discharging on it their fæces laden with virulent bacilli. Experiments similar to those given above made with bed-bugs gave negative results, so that infection caused by a bug bite must be unusual. But if a person crushes a recently-infected bug and then scratches the spot were he has been bitten infection may occur.

Passing over sections on hog erysipelas, mouse septicæmia, chicken cholera, infection with *B. septicus Agrigenus*, febris recurrens, and yellow fever, we come to an important chapter on cholera and flies. Here a number of experiments and observations are collected which show that the part taken by flies in the spread of this disease is absolutely certain. We may cite experiments made by Macrae in the jail at Gaya while cholera prevailed. Boiled milk placed not only in those parts of the prison where cholera cases existed, but in others free from the disease, became infected by cholera bacilli through the agency of flies, which Macrae considers to be "one of the most important agencies in the spread of the disease." Buchanan describes a jail epidemic of cholera which occurred at Burdwan in 1896—"There were great swarms of flies that year. Outside of the prison were some huts where cholera prevailed. A strong wind blew quantities of flies from the side where these huts lay, into the prison enclosure, where they settled on the food of the prisoners. *Only those prisoners who were fed at the jail enclosure nearest the huts acquired cholera*, whilst all the others remained healthy."

What has been shown to be true for cholera may safely be assumed to hold good for typhoid fever. In the case of tuberculosis, leprosy, and many other diseases considered, the evidence is far from conclusive.

Interesting observations are recorded on the effects produced by the bites of ticks, and of different species of Argas. The author believes that the effects due to the bites of Argas are due to a poisonous saliva, and that it is not proved that they inoculate infectious agents.

Insects serve as the intermediary host of many kinds of

tape-worm. One of the best known is the *Tænia cucumerina* of the dog. The dog-louse and the dog-flea harbour the larval form of this parasite. The dog infects himself by eating the fleas and lice, and children, and, we may add, older persons who ought to manifest better taste, may become infected from playing with and kissing dogs, their vermin being unconsciously swallowed.

Several distomata and other parasites are described, some of whose stages are passed in the bodies of insects. We then come to the filariæ, some of which are so well known from the works of Lewis, Manson, Grassi, and others. A good account of these researches is here given.

In 1895 Bruce showed that the tsetse fly disease was produced by a hæmatozoal flagellated micro-organism, which could be conveyed with small quantities of blood from the diseased to healthy animals, and that this transmission can be effected by the *Glossina morsitans*. It was found, however, that this fly was not capable *per se* of producing the disease, because if they were caught and kept hungry for a few days, and then allowed to bite susceptible animals, the bite was innocuous. "To convey the disease the contaminated flies must bite a healthy, susceptible animal soon after they have been on a diseased animal, or been caught in the fly country." The glossina thus seems to act as a simple carrier, not as an intermediary host, for the parasite.

The cause of Texas fever is, according to the researches of Smith, whose observations have been called in question, but are supported by Nuttall, a parasite conveyed by ticks from diseased to healthy cattle. The tick having gorged itself, falls off and lays its eggs; these are hatched and the larvæ, to which the parasite is transmitted, attach themselves to healthy animals, and transmit the disease to them. Owing to the very minute size of the Texas fever parasite it has, so far, been impossible to follow its development in the tick. Koch, in German East Africa, has found that the larvæ developed from the eggs of ticks which had lived on healthy animals were unable to cause disease when they were made to bite healthy animals, but that if the larvæ came from ticks which had infested diseased animals their bite was infectious.

The remainder of this very valuable paper is occupied by an account of the mosquito-malaria theory, and gives full details of all that was done on this subject up to the publication of the work. It is unnecessary to notice this further, as the matter has lately been so much under the attention of our readers.

By no means the least valuable part of Dr. Nuttall's work is the collection of the literature which he has made. No less than 32 pages of bibliography, giving references to 366 separate publications, conclude the volume. Three plates are appended illustrating the development of *Filaria recondita*, *Filaria Bancrofti*, and *Gigantorhynchus moniliformis*.

The Diseases of the Nervous System. A Text-Book for Physicians and Students. By DR. LUDWIG HIRT. Translated, with permission of the Author, by AUGUST HOCH, M.D.; assisted by FRANK R. SMITH, A.M., M.D. With an Introduction by WILLIAM OSLER, M.D., F.R.C.P., F.R.S. London: Henry Kimpton. 1899. Pp. 715.

THIS handsome volume comes to us recommended by the high authority of Professor Osler, who praises the arrangement of the matter, the graphic description of the anatomy and symptomatology of the different diseases, the excellent character and originality of the illustrations, and concludes his notice as follows:—"Pursuing the *via media* in the important question of treatment, neither displaying the pessimism which too many maladies of the nervous system would seem to justify, nor an optimism so flagrant as to savour of quackery, Professor Hirt is a safe guide in the highways and byways of neurotherapeutics."

We notice at the beginning some curious chronological anomalies. The author's preface to the second German edition is dated February, 1894. Professor Osler's introductory note is dated January, 1893, and in it he speaks with just praise of the way in which the translation has been done. As the book was published only in the latter part of 1899, an interval of nearly seven years must have elapsed between the completion of the translation and the publication of the work.

Although we are strongly of opinion that of text-books of nervous diseases we have enough and to spare, yet we cannot refuse a welcome to that before us, which is, in all particulars, a very favourable specimen of its class. The descriptions are admirably clear, an enormous amount of information is given in a comparatively small space, and the remarks of the author are always characterised by a profound knowledge of his subject and by great judgment. The book is divided under three main heads—

I. Diseases of the Brain and its Meninges, including those of the Cranial Nerves.

II. Diseases of the Spinal Cord.

III. Diseases of the General Nervous System.

It is under the third head that Professor Hirt differs from most writers. Here he describes not only such diseases as chorea, paralysis agitans, migraine, epilepsy, hysteria, but multiple sclerosis, locomotor ataxy, and general paralysis of the insane—diseases which are generally described with those either of the brain or cord. There is, no doubt, much to be said for this arrangement, and the chapters on these diseases will be found to be among the best in the volume. On the whole the work is one which we can recommend in the strongest terms. The translation is a really good one. The very defective translations which some years ago we were in the habit of receiving from America are now a thing of the past. The work is well brought out, printed in large, clear type on paper not too highly glazed, so that reading is a pleasure instead of a torture. The text is illustrated by 181 drawings, a great many of which are original, being reproductions of photographs of the author's cases. There is a good index.

An Introduction to Diseases of the Nervous System. By H. Campbell Thomson, M.D. London: Baillière, Tindall & Cox. 1899. Pp. 123.

This book opens with a short account of the general structure of the central nervous system, the neuron theory, the relationship of the neurons to one another, the

structure of the cell-body, and the alterations which the chromatin undergoes under different conditions. A general description of the sensory system of conductors and of the disturbances of sensation follows. This is succeeded by a sketch of the motor system. Then in a series of chapters the disturbances in the functions of the muscles, paralysis and spasm, are described, beginning with the face, tongue, palate and larynx, and eye, and going, on to those of the neck, upper limb, hand, abdomen, and lower limbs. These chapters are illustrated by many excellent original drawings of cases which have come under the notice of the author.

A chapter on reflexes follows, and on the indications which are to be drawn from their increase or diminution. On page 106 we read, "It is important to remember that in testing the deep reflexes the muscles concerned should be all relaxed," and immediately after it is directed that in testing for the knee-jerk the patient should be put sitting on a table with the legs hanging freely over the edge, which attitude certainly does not relax the muscles concerned.

In the chapter on the localisation of injuries and diseases of the spinal cord there is some interesting matter. The want of correspondence between the spinous processes of the vertebræ—especially in the dorsal region—and the corresponding nerve-roots is pointed out—"The cords of the motor nerves are composed of fibres from different roots, and therefore an injury to one root may affect fibres of several different nerves." A table, founded on the researches of Thorburn, is given, showing the localisation of the muscles of the upper extremity in the spinal cord. "It is often assumed that the distribution of the motor roots corresponds with that of the corresponding segment of the cord from which they arise. This, however, is by no means proved, and, as I have shown elsewhere, the nuclei are probably arranged on a plan which is quite independent of the level of the roots." Thus in Thorburn's table the extensors of the wrist and fingers are supplied from the 7th root, while the flexors of the wrist and fingers are supplied from the 8th root; the author shows, from a study of cases of injury to the spinal cord, that the nuclei of the long extensors and

flexors lie in close apposition to one another, and in an intermediate position to the muscles of the wrist and the intrinsic muscles of the hand.

The last chapter is on disorders of gait.

The book is written in an attractive and clear style, and contains a great deal of information. We can hardly recommend it to an absolute beginner, but to one who has made some advance in the study of nervous disease it will be valuable, specially from the concise but pretty complete account it gives of the affections of the different muscles.

A Guide to Urine Testing, for Nurses and others. By Mark Robinson, L.R.C.P., L.R.C.S. Ed. Bristol: John Wright & Co. 1899. Demy 16mo. Pp. 43.

This neat little pocket guide will prove most useful to the nursing profession, and will meet a want we have often heard expressed. The directions for testing are simple and uncomplicated, and the apparatus and chemicals required as compact as need be, yet containing all that could be necessary for initial purposes and correct reporting of cases. The effects of various drugs, either swallowed or absorbed, are explained, with many other fallacious appearances which might lead to a mistaken diagnosis. We strongly recommend the adoption of the tables given for systematic testing, both for practice and for the nurse's report.

Practical Text-Book of Midwifery for Nurses and Students. By Robert Jardine, M.D. Edin.; M.R.C.S. Eng.; F.F.P. & S. Glasgow; Physician to the Glasgow Maternity Hospital, Glasgow. With 36 Illustrations. Edinburgh: William F. Clay. 1899. Cr. 8vo. Pp. xv. and 245.

Perhaps the highest compliment which one school can pay to another is to say that their respective methods and modes of teaching are similar, or almost so. Consequently when we say that we should have no more hesitation in employing a nurse who was thoroughly imbued with the principles laid down in the little book before us than we should have in employing one trained according to the principles of the

Dublin school, we pay Dr. Jardine's work a very high compliment. Dr. Jardine's chapters on "Antiseptics and Asepsis," on the "Management of Labour," and on "The Normal Puerperium" are clearly written and modern in their teaching. The chapter on infant feeding is full of practical information, and is written with a due regard for the teaching of physiology. If Dr. Jardine will erase the words "for students" from the title-page, and allow his little book to go out to its readers as a work intended for nurses only, we shall have no hesitation in saying that it is the best suited for its purpose of any book of the kind which we have come across.

At the same time, we do not wish to convey the idea that we consider that there are no imperfections to be met with. There are many to be found. And even though they are imperfections due as a general rule to errors of definition, of style, and of grammar, rather than of teaching, they are still there, and must be taken into account. In the first place, the work is not a "text-book," it is a hand-book or manual. A few months ago Veit's enormous Gynæcology was completed, and was designated a "Handbuch," and now a little work of 250 pages is called a "Text-book." Again, why should a mole be called a false conception, any more than a macerated fœtus which is expelled at the seventh or eighth month? The fact that the term is classical is no reason for perpetuating it, if it is incorrect. Why should illustrations of pelves seen in sagittal section, in which the relationships of the parts are incorrect, be perpetuated by publication in still another English midwifery? Dr. Jardine, on page 22, gives as a type an admirable representation of the sagittal section of a pelvis, and on pages 113, 164, 165, he gives similar pelvic sections which are anything but correct. Surely the time is come to cease producing classically inaccurate anatomical relationships, save with the object of warning the students against them. Similarly, it is as absurd to direct a nurse to "bare her arms to the elbow" when making a vaginal examination, and then to insert an illustration showing a doctor making a vaginal examination with his coat-sleeve down to his wrist, as it would be to direct that a vaginal examination must be made with two fingers, and then

insert an illustration showing the entire hand being used. We doubt the advisableness of teaching a nurse that there is a physiological rise of temperature with the onset of active secretion of milk. Although "milk fever" is undoubtedly "a very different thing from puerperal fever," nurses are only too likely to attribute fever due to sapræmic infection of the uterus to "milk fever" to require any stress being laid on the possibility of the secretion of milk being associated with a rise of temperature.

There is as definite a manner of using the different varieties of type in conveying what we mean as there is of using stops, or paragraphs, or chapters. By graduating the size and the thickness of the type to suit the importance of the subject or sub-division of the subject with which we are dealing, we enable the reader to rapidly grasp the degree of importance, or the connection with the antecedent and following matter, of the particular paragraph which he is reading. Dr. Jardine, however, entirely deprives the reader of any such assistance by using the same heavy type to announce the subject with which he is dealing, the particular division of the subject, any sub-divisions which may be rendered necessary, and any word whose importance requires that particular attention should be directed to it.

In spite of these blemishes we reiterate the opinion which we have already expressed—that for nurses the little work is an improvement on any similar book of the kind with which we are familiar.

STRANGULATED HERNIA.

Surround the tumour with vaseline, elevate the pelvis, flex the thighs, and pour ether upon the constricted neck. Depletion of tissue, shrinkage, relaxation, render reduction possible.—*Med. Rev.*, September 30.

PERSISTENT PRURITUS ANI.

In persistent pruritus ani Dr. Dunn recommends that the space betwixt the upper and lower sphincter ani be searched for a simple ulcer, which is usually to be found on the posterior wall of the bowel.—*Journal Amer. Med. Association.*

PART III.

MEDICAL MISCELLANY.

Reports, Transactions, and Scientific Intelligence.

CLINICAL RECORDS.

The Radical Cure of Hydrocele by Evacuation of the Fluid Contents, and the Injection of Strong Iodine Solution. By JAMES R. WALLACE, M.D., F.R.C.S.I.; Surgeon to the Home Hospital, Calcutta.

HYDROCELE, or the collection of serum within the walls of the tunica vaginalis of the testicle, is one of the commonest surgical disorders of Lower Bengal. It may be said to be an endemic condition. Simple residence in the malarious delta of Lower Bengal is a sufficient cause for its appearance. It is no exaggeration to say that every fourth native one meets in Calcutta is afflicted with this malady, and that among Europeans and Anglo-Indians, who have been more than ten years resident in this city, 20 per cent. suffer from this disorder. It seems no special injury or hurt is needed to set up the sub-acute inflammation that precedes the effusion of fluid, though in many cases there is a history of a simple hurt as an exciting cause. The swelling commences and develops often painlessly, but in some instances we find painful throbbing of the parts and general disturbance of the system in the form of low fever. In some cases there is a distinct periodicity in the febrile attacks, and there is always an accompanying scrotal or testicular engorgement, with a subsequent permanent increase in the serous collection. In certain well-defined cases, a mere puncture of the skin of the scrotum is followed by an oozing of chylous-looking lymph. In these cases the urine is often chylous, and filariæ are found in the serum thus removed. Such cases are generally accompanied by œdema of the scrotal skin, and often develop into the true form of elephantiasis scroti so commonly seen in Bengal. The quantity of serum in the tunica varies considerably. The ordinary hydrocele of the size and shape of a well-grown Bombay mango,

contains about ten ounces of serum, but I have seen cases in which I have removed as much as 5 to 10 pints of fluid from a double hydrocele. The presence of fluid in the tunica often deforms and flattens the testicle, and as often depreciates the sexual functions. Peculiar notions exist in the public mind as to the nature and source of these fluid collections. The natives freely believe that it arises from the quantity of cocoa-nut water they indulge in, and they, as well as intelligent Europeans, actually ascribe its source to the trickling of the urine from the bladder into the scrotum. Treatment is worthless if it is not radical in its aim. To endeavour to cure hydrocele by external applications of counter-irritants and absorbents is a waste of time and an unnecessary infliction of pain and disappointment on the patient. From a large experience of such cases in out-door dispensary and general practice, I hold that tapping, followed by the injection of a suitable quantity of the Edinburgh tincture or the London liniment of iodine, is an absolutely safe and invariably infallible cure for this malady. The operation is simple enough. The scrotum being seized in the left hand and compressed tightly to force the fluid to the front, the testicle lies safely at the back, the trocar is forced in an upward direction at a dependent point to the extent of about an inch. With the cannula held *in situ*, and the rapid withdrawal of the trocar, the serum flows out freely. Every drop ought to be permitted to ooze out. A syringe, containing one or two drachms of iodine solution, is now fixed into the cannula and the fluid injected into the scrotum through it. The skin of the scrotum is now pinched at the seat of puncture, the cannula withdrawn by a quick, steady pull, and the scrotum briskly shaken, so as to diffuse the iodine through the whole sac of the testicle. This done, the patient is made to rest. No local applications are subsequently needed, and it is best to allow nothing to check the inflammatory process that results in the outpouring of adhesive lymph which ultimately agglutinates the sides of the tunica and thus prevents the recurrence of hydrocele. Tapping is painless, but the subsequent injection of iodine is productive of agonising pain to the patient. He usually feels an acute pain pass up along the spermatic cords into the loins, with a sensation of faintness and nausea. A diffusible stimulant, or a drink of iced water, with a few minutes' rest, gives relief. I can affirm without exaggeration, after a very large experience of this method of treatment of hydrocele while I was Resident Surgeon to the Calcutta Medical College Hospital, and after fourteen years of subsequent pri-

vate practice in Calcutta, that 90 per cent. of such cases are radically and permanently cured.

The following cases treated in the Home Hospital are illustrative of the method described:—

Case I. (No. 5 in Hospital Case Book).—Capt.——, an Irishman, aged fifty-four, married, born and bred in India, had suffered from a swollen testicle for seven or eight years. Does not know how the swelling began, and has no recollection of having hurt the testicle. During the past few months the swelling has much increased in size and has become painful. Was admitted into the Home Hospital on the 28th November, 1898, and was found to be suffering with hydrocele of the right testicle. The swelling was about the size of a large mango, and the sac had undergone much tension from the presence of fluid in it. The patient was nervous about the shock of the injection of iodine, and asked to be chloroformed. This was done, and the operation duly performed that day (28th). About 14 ounces of fluid were removed, and 3 drachms of liniment of iodine were injected into the cavity. He made a splendid recovery without any febrile symptoms, and was discharged from hospital on the 3rd December, 1898. News received from the patient a few days ago, or eleven months since the operation, states that the affected testicle has quite reduced to its normal size.

Case II. (No. 59 in Hospital Case Book).—Mr.——, an Englishman, aged twenty-two, unmarried, born and bred in India, was admitted for a very severe attack of secondary syphilis. His left testicle, which for two or three years had enlarged painlessly, was at the present time very painful, and swollen to the size of two closed fists. It was found to be full of fluid. The patient was advised to have the tumour tapped and injected. He was operated on in the manner above described on the 9th July. He was feverish for 48 hours, and suffered a little from pain in the cord and loins for three or four hours after the operation. He was discharged on the 31st July with the affected testicle very much diminished in size,

Case III. (No. 67 in Hospital Case Book).—Mr.——, an Anglo-Indian, aged thirty, unmarried, had suffered from an enlarged right testicle for 13 years. He was born and bred in Calcutta, had suffered from occasional attacks of malarial fever, always associated with pain and increased swelling in the scrotum. He was admitted into the Home Hospital on the 19th July, and stated that for about a fortnight before, the testicle had become so painful that he was obliged

to keep to his bed. On admission a huge tumour was found, as large as a cocoa-nut, perfectly hard and almost non-resilient from the extreme tension caused by the fluid contents. A hydrocele was diagnosticated, and it was immediately tapped and injected in the usual way. Thirty ounces of fluid were removed. There was some pain after the operation, but no febrile disturbance. The inflammatory swelling which followed was extremely slow in subsiding, and the patient left the hospital a week after the operation very much relieved. This case, from the thickened state of the tunica vaginalis, is one in which I would be inclined to predict failure and the need for a second operation.

Case IV. (No. 94 in Hospital Case Book).—Baboo——, aged thirty, a wealthy zemindar of Patna, had suffered from malarial fever off and on for the past five years, each attack being accompanied by painful swelling of the right testicle. On admission he was found to have a right hydrocele as large as a cocoa-nut. This was found to contain 2 pints of fluid. The tapping and injection were followed by some pain and slight fever for two days. He was discharged from hospital on the eighth day after the operation, and news subsequently received from him reports that he is perfectly well.

Neglected Retention of a Stitch in Whitehead's Operation for Piles, resulting in Painful Fistula simulating Epithelioma. By James R. Wallace, M.D., F.R.C.S.I.; Surgeon to the Home Hospital, Calcutta.

Case (No. 6 in Hospital Case Book).—Mrs.——, an English lady, aged twenty-eight, married, three children, had just returned to India from England, where three months before she had undergone Whitehead's operation for piles. When the surgeon who had operated on her had ceased to attend her, he stated that she was quite well, and needed no further treatment, though she affirms that she complained to him at the time that there was a constant soreness and a sense of irritation in the anus. He said that these unpleasant symptoms would soon pass away. They did not do so, however, and three weeks after the operation the surgeon was called in to attend to a painful swelling in that region, which he described as an abscess, and he incised it. The patient left London, where she was undergoing treatment, and went to the Provinces, but before another month had passed away she was compelled to have another abscess opened at the same part. She states that this incision did not heal, and that there was a dis-

charge of matter from it daily, with considerable pain and itching. A few days before she left England she felt a small soft nodule at the site of the unhealed incision, and this began to increase in size slowly. She did not consult her doctor about it, but on the passage out it became so painful and so much discharge oozed from it, that the doctor on board told her he feared she was developing a small cancer. She was admitted into the Home Hospital on the 6th December, for the treatment of a fungating mass with a narrow pedicle, at the point of attachment of which, about quarter of an inch of the margin of the anus, was a fistulous opening, communicating by a cartilaginous cord with a point in the rectum about an inch and a half from the anal aperture. This mass was hard, nodulated, and very vascular, having the appearance of an epitheliomatous growth. The patient's general appearance was so healthy, and the condition of the surrounding parts so perfectly normal, that I decided that the growth was a polypoid condition of hypergranulation tissue, dependent upon the irritation caused by the fistula and the acrid discharge therefrom. The patient was chloroformed, the pedicle of the growth was tied with catgut, and the mass snipped off with a pair of scissors above the ligature. A director was now passed along the fistulous tract, the point entering the bowel at an opening nearly an inch and a half from the anus. This tract was now divided, and in removing the director a horse-hair stitch was found on it, which explained the cause, and the course of the patient's painful suffering. This was clearly due to the accidental neglect of the surgeon who operated on her for piles to remove one of the stitches which he used at the operation. The subsequent progress of the case was very satisfactory. The patient left the hospital a fortnight later, and has not had a day's trouble since.

BEER DRINKING.

RECENT statistics show that the consumption of beer in Germany during the year 1897-98 was 1,383,700,000 gallons; 1,192,000,000 in Great Britain; 180,000,000 in France, and about 90,000,000 in Russia. A better notion of the popularity of beer as a beverage is to be had from the estimates of consumption "per head" of the population. It is reckoned at 36 gallons in Belgium, 32 in Great Britain, 25 in Germany, 21 in Denmark, 12 in Switzerland, 10 in the United States, $9\frac{1}{2}$ in Austria-Hungary, 9 in Holland, 5 in France, $3\frac{1}{2}$ in Norway, $2\frac{1}{2}$ in Sweden, and 1 in Russia.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

President—Edward H. Bennett, M.D., F.R.C.S.I.

General Secretary—John B. Story, M.B., F.R.C.S.I.

SECTION OF SURGERY.

President—R. L. Swan, President of the Royal College of Surgeons in Ireland.

Sectional Secretary—John Lentaigne, F.R.C.S.I.

Friday, December 8, 1899.

The President in the Chair.

A Contribution to Renal Surgery.

Dr. Myles read a paper on this subject. [It will be found at page 102.]

Sir William Stokes had under his care some years ago a man who suffered at times intense pain from a movable kidney. He exposed the kidney by an anterior incision, and was surprised to find it occupying apparently its normal position. He thought it would be better to be content for the time with merely exposing it, and subsequently to operate again if necessary. The patient's symptoms completely disappeared, and he was able to resume his business. If the mere exposure of the kidney were sufficient, and the subsequent fixation were due to adhesions after the operation, the question arose whether it was necessary to strip so much of the capsule.

Mr. M'Ardle congratulated Mr. Myles on having so fully demonstrated the possibility of fixing the kidney without the risk attendant upon suture. Six years ago Brandt showed very clearly that when a suture passing through the kidney engaged one of the arterial arcades hæmorrhagic infarction resulted. He thought the operation of suturing the kidney should be abandoned. The question of reaching the kidney was one of great moment. In dealing with a kidney that was to be left behind he would not dream of cutting down in a semilunar line, just as he would never cut down in the lumbar region when he had made up his mind to

remove the kidney. In the first case, where the opening was made in the front of the abdomen, when the sutures had been passed through the kidney, it was very difficult to locate the position to pass the needle through at the back. His reason for not adopting the lumbar incision in nephrectomy was that he wished to determine whether the other kidney was engaged. Some time ago a patient came to him for operation for a tumour in the left side, with persistent pain. There was no means of determining that the right kidney was at fault, and believing it to be sound he removed the left kidney containing a large cyst. The wound healed, but up to the fifth day the patient had passed no urine, and when he came to examine the right loin, fearing that a calculus had blocked the ureter, he discovered that the kidney was calcareous. The patient died on the ninth day, with symptoms bordering on anæmia. This demonstrated to him the folly of cutting into the loin for the total removal of the kidney. The combined operation gave him an opportunity of examining the kidney that was not to be interfered with, and enabled him to carry out extra-peritoneal resection of the kidney.

Mr. Croly had a case many years ago of direct injury to the kidney caused by a bell falling on a man. The patient bled profusely from the kidney, and the following treatment was adopted: The patient's arm was tied up, and he was bled, about 15 ozs. being withdrawn. The hæmorrhage from the kidney ceased completely. The treatment he would now adopt in dealing with a torn kidney would be to cut down on the kidney and secure the bleeding point. The term "floating kidney" should be expunged from surgery. The late Mr. Hamilton told him that in all the subjects he had dissected he had never seen a floating kidney. The proper way to fix the kidney was by stitching the capsule. As to Dr. Myles' suggestion *re* sepsis, where he (Dr. Croly) had had fatal termination, death occurred in a few hours. Sepsis would not set in so rapidly. Both in removing the kidney and in exploring for stone he would make a lumbar incision.

Dr. Lane Joynt, speaking of the application of the Röntgen rays, said he had made very careful preparations in one of Dr. Myles' cases, but the result was a complete failure. The reason of that was that the operation was carried out in a well-lighted room which was suddenly darkened, thus rendering it impossible to see. From long experience he thought that after the lapse of half an hour in a darkened room many details would be visible which previously were not to be seen.

Dr. Myles, replying, said that Dr. Lane Joynt had spent a

great deal of time and labour so as to give the Röntgen rays a fair trial, with the kidney outside the body. The kidney was as opaque as bone, and no calculus could throw a deeper shadow. Possibly a sensitive plate would catch a shadow not perceptible to the human retina. He joined issue at once with Mr. Croly as to the fixing of the kidney by stitching the capsule. A single stitch would make it adhere at one point only, and that would be liable to give way, while with a more permanent suture there was a possibility of infection. With regard to the double operation, he thought that in such a grave condition as renal disease a surgeon was not justified in doing anything which added in the remotest degree to the gravity of the operation. Would it not be possible, where incison was made in the lumbar region, to put the hand across the abdomen and feel the other kidney? As to Mr. Croly's remarks concerning sepsis, he thought the idea much the same. With diminished eliminating powers a very modest degree of sepsis, not necessarily associated with the manufacture of pus, would be sufficient to produce death.

Clinical Remarks on a Case of Fracture of the Carpal Scaphoid.

Sir William Stokes read a paper on this subject.

Professor Bennett referred to the liability to suppuration in these injuries. He had never seen an instance of united fracture of a carpal bone. The literature of the subject was extremely scanty; the total number of cases verified, both by specimen and the Röntgen rays, was, he thought, under ten.

Mr. Croly said the surgical treatment of these injuries was rest, not massage, and passive motion. As to the Röntgen rays, where were we up to a few years ago in the diagnosis of fractures and epiphysary separations? He had never required the aid of the Röntgen rays in diagnosticating an injury.

Mr. M'Ardle said the Röntgen rays were the most important advance in surgery made within the last twenty years. There were fractures which no skill could diagnosticate without their aid. Non-union in these injuries did not seem to make much difference, because, if the limb had not been kept fixed too long, the patient got perfect use of the hand.

Dr. Myles associated himself with what Mr. M'Ardle had said as to the utility of the Röntgen rays. He thought no surgeon would be doing justice to his patient who relied on his tactile skill alone when he had the opportunity of using the X-rays. On opening a wrist-joint *post-mortem*, where death had occurred within forty-eight hours of the infliction of severe injuries, including

splitting of the lower articular end of the radius, he had found the joint filled with pus.

Mr. Lentaigne joined with Mr. M'Ardle and Dr. Myles in protesting against any slur being thrown on the assistance derived from the Röntgen rays. In his cases he made it a practice to have a skiagram taken as soon as possible after infliction of the injury and another after treatment had been carried out. He had gained enormously by it.

Dr. Doyle said in three instances in which he had skiagrams taken the result was most unsatisfactory.

Sir William Stokes, in reply, said the remarks of the President of the Academy with reference to the liability to suppuration in these cases was very important as showing the necessity for keeping the part in a state of perfect immobility in the early stage of treatment; but when that stage had passed off, and there was little danger of inflammation or suppuration, he thought it was the surgeon's duty to adopt means by which ankylosis of the joint should be prevented. At that stage certainly massage and careful passive motion were clearly indicated.

The Section then adjourned.

SECTION OF PATHOLOGY.

President—Professor A. C. O'Sullivan, M.D.

Sectional Secretary—E. J. McWeeney, M.D.

Friday, January 12, 1900.

The President in the Chair.

Fractured Pelvis.

Professor E. H. Bennett submitted an united fracture of the pelvis involving the brim or inlet of the true pelvis, the lines of fracture being placed in the oblique diameters of the pelvis, and obliquely through the sacrum. He presented this specimen to establish the fact that patients even suffering so grave an injury may recover. He had dealt with such a case in the living also. He showed a specimen of this form of fracture that was fatal. He showed two specimens of the form of injury which results in the displacement of the head of the femur, either incompletely or completely, inwards through the acetabulum into the pelvis. Referring to the double vertical fracture of the pelvis, he exhibited an enlargement of Voillemier's plate of this lesion, and stated that in three cases that had come under his care recovery had been complete.

Mr. H. G. Croly said he had three cases to relate. The first was that of a man thrown off a dray, and the wheels of it went over the pelvis. He was found collapsed, with the symptoms of laceration of the urinary bladder. After death he found the anterior part of the bladder torn, and the os pubis fractured. The specimen is in the Museum of the College of Surgeons. The second case was that of a gentleman whose horse fell and rolled over him. On catching hold of the crest of the ilium he could rock the ilium backwards and forwards. The patient got phlebitis of the veins of the lower extremity, but ultimately recovered. The last case occurred in a lady who fell on her coccyx. It was fractured, as could be diagnosticated by inserting a finger into the rectum. By a push backwards the bone went into its place.

Professor Bennett, in reply, said he had put the leading varieties of these injuries before the meeting, but there were some others of which he had not examples to show. He had, of course, excluded all fractures of individual bones, the only question he discussed being that of fractures involving the pelvic brim as a whole, and he thought the specimens were complete enough to be recorded in the minutes.

Epiphysary Fractures of Long Bones.

Dr. Knott showed a number of these specimens.

Professor Bennett, in explanation of an opinion which Dr. Knott had ascribed to him and to his teacher, R. W. Smith, that in cases of compound separation of the lower epiphysis of the humerus the synovial cavity remained unopened, observed that the periosteum of the humerus was practically inserted into the epiphysary cartilage. The real point that should be made was that the lesion was a dislocation of the lower end of the diaphysis, not of the epiphysis. This might be thought to be hair-splitting, but this part was displaced out of its periosteum like a finger out of its glove, so that there was interposed between the synovial membrane and this diaphysis the tough periosteum of the bone, and the synovial membrane thereby escaped being opened. He recollected that, in dealing with a compound separation of this epiphysis in which the brachial artery had been torn, the question arose whether he should not amputate the limb at once, expecting that a profuse suppuration would occur. He was told, however, by Professor R. W. Smith that as a suppurating wound it would do the elbow-joint no harm, and that they could save the limb, which they did.

Dr. Knott, in reply, said that, having formerly seen the ligaments of the elbow-joint only in adult subjects, he always found

the anterior and posterior ligaments attached above their respective fossæ. When he heard at that time the statement of Professor Bennett, that epiphysary disjunction—which he knew took place well below the level of where he found the ligaments attached—was still extra-articular, he could not then comprehend it; but when he procured the specimen which he had shown them that evening it settled the question to his satisfaction, because it showed the attachment of the anterior and posterior ligaments of the elbow-joint just at the margin of the articular surface.

Sudden Death from Occlusion of Pulmonary Artery.

The PRESIDENT (Professor O'Sullivan) said this was a case of a woman, aged forty-eight, who was admitted to Sir P. Dun's Hospital, under the care of Dr. Kennan, for umbilical hernia, on December 4th, and who died suddenly on December 17th, no operative treatment having been employed. The symptoms preceding death were complete unconsciousness, heavy stertorous breathing, contracted pupils, slight frothing at the lips, which were open; the tongue was quite colourless, the face of a dull, leaden colour; the pulse imperceptible, and the heart sounds barely audible. Death took place in about five minutes. At the *post-mortem* examination an embolus was found plugging the pulmonary artery at its bifurcation, consisting of a clot 7 inches long, $\frac{5}{8}$ inch wide at one end and tapering to $\frac{1}{4}$ inch at the other, bent three times upon itself so as to form an S. A tumour was found in the pelvis, which consisted of the uterus, distended by a large myoma growing in the cavity of the uterus, and completely filling it. This pressed upon both external iliac veins, and caused thrombosis, with œdema of both legs. The thrombosis, which caused death, probably came from the left long saphena vein.

PROFESSOR BENNETT said he had seen this case, and he confirmed the observations on the appearance of the patient.

MR. H. G. CROLY thought that if intra-pelvic tumours, which were so common, could produce this effect of sending a clot up to the pulmonary artery, it was a remarkable thing that death was not more common from this cause in such cases.

PROFESSOR E. J. MCWEENEY inquired as to the condition of the portion of lung supplied by the occluded branch of the pulmonary artery. Was it infarcted with blood or obviously anæmic, or in what condition was it? As far as his reading went he believed the enormous length of the embolus to be unique.

PROFESSOR O'SULLIVAN, replying, said that, as he had mentioned, the condition of the lungs was that they had rather more blood in

them than usual. It was the entire pulmonary artery that was blocked, as the clot went into the left branch, and blocked the right by projecting into the main trunk across the opening. He had omitted to mention that there was great œdema of the legs, and the superficial veins were tortuous and varicose. He had seen recently in Thoma's Pathology a picture of a case almost identical with what this must have been when lying in the pulmonary artery. The clot, however, was twisted twice, and lay in the pulmonary artery. It was this picture, perhaps, which led him to recognise the condition so readily.

Exhibits.

Mr. Henry Gray Croly showed—(*a*) larynx and trachea of child, showing œdema of glottis with tracheotomy tube *in situ*; (*b*) unusual foreign body—shawl-pin with large glass bead—removed from the male urethra.

Dr. Knott exhibited a series of specimens of a hitherto undescribed fracture of the patella.

The Secretary (Prof. McWeeney)—(*a*) a series of cultures to illustrate the effect of certain variations of the nutrient medium on the growth of the typhoid bacillus; (*b*) sections to illustrate certain points in the morbid histology of a case of extensive tubercular disease of the intestines, followed by acute miliary tuberculosis of the liver.

The Section then adjourned.

PELVIC DISEASE.

We make a mistake as gynæcologists, perhaps, in sometimes promising too much as the result of local treatment of pelvic disease. We certainly need to give due heed to the claims of the patient's general health, treating not the pelvis alone, but the woman as a whole.—*Montgomery.*

INTESTINAL STENOSIS.

In an elaborate paper on the condition of the intestine immediately above a stenosis of the tube, M. Maurice Patel concludes:—(1.) Intestinal stenosis, which is either intra-parietal or extra-parietal, does not produce a hypertrophy of the part immediately beneath it; and the bowel just above the stenosis becomes dilated and markedly thinned. (2.) Stenosis due to ulceration, on the contrary, produces an augmentation in the number and size of the muscle fibres, producing a distinct hypertrophy.—*Lyon Médical.*

SANITARY AND METEOROLOGICAL NOTES.

Compiled by J. W. Moore, B.A., M.D. Univ. Dubl.;
P.R.C.P.I.; F. R. Met. Soc.;
Diplomate in State Medicine and ex-Sch. Trin. Coll. Dubl.

Vital Statistics

For four Weeks ending Saturday, January 27, 1900.

The deaths registered in each of the four weeks in the twenty-three principal Town Districts of Ireland, alphabetically arranged, corresponded to the following annual rates per 1,000 :—

Towns, &c.	Week ending				Average Rate for 4 weeks	Towns, &c.	Week ending				Average Rate for 4 weeks
	Jan. 6	Jan. 13	Jan. 20	Jan. 27			Jan. 6	Jan. 13	Jan. 20	Jan. 27	
23 Town Districts	37·0	38·2	31·4	33·2	35·0	Limerick -	15·4	23·9	22·5	23·9	21·4
Armagh -	21·4	28·5	7·1	21·4	19·6	Lisburn -	55·3	76·6	29·8	42·6	51·1
Ballymena	16·9	28·2	16·9	22·5	21·1	Londonderry	44·0	26·7	15·7	37·7	31·0
Belfast -	28·8	30·5	24·1	24·7	27·0	Lurgan -	45·6	50·2	63·9	27·4	46·8
Carrickfergus	5·8	0·0	11·7	29·2	11·7	Newry -	20·1	16·1	0·0	12·1	12·1
Clonmel -	4·9	39·0	34·1	73·0	37·8	Newtownards	28·3	5·7	39·7	39·7	28·4
Cork -	57·4	58·1	35·3	45·0	49·0	Portadown -	49·5	30·9	24·7	24·7	32·5
Drogheda -	15·2	38·0	26·6	19·0	24·7	Queenstown	23·0	34·4	23·0	40·2	30·2
Dublin - (Reg. Area)	47·9	47·0	42·5	37·0	43·6	Sligo -	15·2	35·5	25·4	40·6	29·2
Dundalk -	20·9	29·3	8·4	16·8	18·9	Tralee -	33·6	39·2	16·8	78·3	42·0
Galway -	3·8	49·1	60·5	60·5	43·5	Waterford -	51·7	23·9	35·8	39·8	37·8
Kilkenny -	18·9	37·8	18·9	37·8	28·4	Wexford -	49·7	45·2	31·6	58·7	46·3

In the week ending Saturday, January 27, 1900, the mortality in thirty-three large English towns, including London (in which the rate was 22·1), was equal to an average annual death-rate of 22·6 per 1,000 persons living. The average rate for eight principal towns of Scotland was 23·4 per 1,000. In Glasgow the rate was 24·4. In Edinburgh it was 21·2.

The average annual death-rate represented by the deaths registered during the same week in the Dublin Registration Area and in the twenty-two principal provincial Urban Districts of Ireland was 33·2 per 1,000 of their aggregate population, which, for the purpose of this return, is estimated at 1,062,188.

The deaths from the principal zymotic diseases in the twenty-three districts were equal to an annual rate of 1·6 per 1,000, the rates varying from 0·0 in thirteen of the districts to 19·5 in Clonmel—the 15 deaths from all causes registered in that district comprising 4 from diarrhœa. Among the 170 deaths from all causes registered in Belfast are one from measles, 5 from whooping-cough, one from enteric fever, and 2 from diarrhœa. The 65 deaths in Cork comprise 2 from measles and one from diarrhœa.

In the Dublin Registration Area the births registered during the week amounted to 191—92 boys and 99 girls; and the deaths to 259—130 males and 129 females.

The deaths, which are 31 over the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 38·6 in every 1,000 of the population. Omitting the deaths (numbering 11) of persons admitted into public institutions from localities outside the area, the rate was 37·0 per 1,000. During the four weeks ending with Saturday, January 27, the death-rate averaged 45·6, and was 11·1 over the mean rate for the corresponding portions of the ten years 1890–1899.

Deaths from zymotic diseases, which had fallen from 55 in the week ended January 13 to 47 in the following week, further declined to 39, but this number is 9 in excess of the average for the corresponding week of the last ten years. The 39 deaths comprise 5 from measles, 27 from influenza and its complications—against 24 under that heading in the preceding week and 20 in the week ended January 13—3 from whooping-cough, one from diphtheria, one from cerebro-spinal meningitis, and one from enteric fever.

Nine cases of measles were admitted to hospital during the week, against 2 admissions in the preceding week, and 7 in the week ended January 13; 8 measles patients were discharged, one died, and 40 remained under treatment on Saturday, being equal to the number in hospital at the close of the preceding week.

Eight cases of scarlatina were admitted to hospital, being 2 over the admissions in the preceding week, but 5 under the number for the week ended January 13; 11 patients were discharged, one died, and 64 remained under treatment on Saturday, being 4 under

the number in hospital on that day week. This number is exclusive of 18 convalescents under treatment at Beneavin, Glasnevin, the Convalescent Home of Cork-street Fever Hospital.

The number of cases of enteric fever admitted to hospital was 13, being 2 under the admissions in the preceding week, but one over the number in the week ended January 13 ; 19 patients were discharged, and 76 remained under treatment on Saturday, being 6 under the number in hospital at the close of the preceding week.

Eight cases of diphtheria were admitted to hospital, against 3 admissions in the preceding week and 4 in the week ended January 13 ; 30 cases of the disease remained under treatment in hospital on Saturday.

Deaths from diseases of the respiratory system, which had fallen from 110 in the week ended January 13 to 92 in the following week, further declined to 55, or 6 under the average for the corresponding week of the last ten years. The 55 deaths comprise 30 from bronchitis, 20 from pneumonia, and 2 from croup.

Meteorology.

Abstract of Observations made in the City of Dublin, Lat. 53° 20′ N., Long. 6° 15′ W., for the Month of January, 1900.

Mean Height of Barometer, - -	29·884 inches.
Maximal Height of Barometer (on 10th, 9 p.m.),	30·455 „
Minimal Height of Barometer (on 3rd, 9 a.m.),	29·326 „
Mean Dry-bulb Temperature, - -	42·1°.
Mean Wet-bulb Temperature, - -	40·4°.
Mean Dew-point Temperature. - -	38·4°.
Mean Elastic Force (Tension) of Aqueous Vapour,	·233 inch.
Mean Humidity, - - - -	87·5 per cent.
Highest Temperature in Shade (on 21st), -	55·7°.
Lowest Temperature in Shade (on 5th), -	32·0°.
Lowest Temperature on Grass (Radiation) (on 21st and 30th) - - - -	28·8°.
Mean Amount of Cloud, - - -	66·0 per cent.
Rainfall (on 27 days), - - -	2·579 inches.
Greatest Daily Rainfall (on 1st), - -	·329 inch.
General Directions of Wind, - - -	W., S.W.

Remarks.

Like January, 1899, this was a cloudy, rainy, generally open month. The weather, in a word, was essentially of a cyclonic and equatorial type. In Dublin rain fell in smaller or larger amount

on 29 out of the 31 days, and there were 27 "rainy days." The dulness and dampness of the weather were equalled only by the unsteadiness of both atmospheric pressure and air-temperature.

In Dublin the arithmetical mean temperature (42·8°) was above the average (41·4°); the mean dry-bulb readings at 9 a.m. and 9 p.m. were 42·1°. In the thirty-five years ending with 1899, January was coldest in 1881 (M. T.=33·2°), and warmest in 1898 (M. T.=47·8°); in 1899 the M. T. was 42·7°. As a general rule, January in Dublin is not colder, but a shade warmer than December. January, 1900, proved no exception to this rule, the M. T. being 0·8° above that of December, 1899 (42·0°).

The mean height of the barometer was 29·884 inches, or 0·010 inch above the corrected average value for January—namely, 29·874 inches. The mercury rose to 30·455 inches at 9 p.m. of the 10th, and fell to 29·326 inches at 9 a.m. of the 3rd. The observed range of atmospheric pressure was, therefore, 1·129 inches.

The mean temperature deduced from daily readings of the dry-bulb thermometer at 9 a.m. and 9 p.m. was 42·1°, or 0·3° above the value for January, 1899. Using the formula, *Mean Temp.*=*Min.*+(*Max.*—*min.*×·52), the M. T. becomes 43·0°, compared with a twenty-five years' average of 41·5°. The arithmetical mean of the maximal and minimal readings was 42·8°, compared with a twenty-five years' average of 41·4°. On the 21st the thermometer in the screen rose to 55·7°—wind, S.; on the 5th the temperature fell to 32·0°—wind, W. The minimum on the grass was 28·8° on the 21st, and again on the 30th.

The rainfall was 2·579 inches, distributed over as many as 27 days. The average rainfall for January in the twenty-five years, 1865–89, inclusive, was 2·206 inches, and the average number of rainy days was 17·3. The rainfall, therefore, and also the rainy days were above the average. The record rainfall for January was in 1895—namely, 5·711 inches on 24 days. In 1876, only ·406 inch was measured on but 9 days. In 1899, 2·483 inches fell on 24 days.

The atmosphere was foggy on the 2nd, 3rd, 5th, 11th, 12th, and 29th. High winds were noted on 17 days, reaching the force of a gale on 5 days—the 8th, 19th, 22nd, 24th, and 26th. Snow and sleet fell on the 27th, 28th, and 29th; hail on the 5th, 15th, 24th, 27th, 28th, 29th and 30th. Temperature exceeded 50° in the screen on 9 days; while it fell to 32° in the screen on only 2 nights, compared with 4 nights in 1899, only 1 night in 1898, 13 nights in 1897, only 3 in 1896, 18 in 1895, 7 in 1894, 4 in 1893, 15 in 1892, 7 in 1891, and 1 night in 1890. The minima on the grass

were 32° or less on 13 nights, compared with 16 nights in 1899, only 3 nights in 1898, 21 nights in 1897, 8 nights in 1896, 29 in 1895, 17 in 1894, 16 in 1893, 25 in 1892, 21 in 1891, and 15 in 1890.

In Dublin the rainfall up to January 31st, 1900, amounted to 2·579 inches on 27 days, compared with 2·483 inches on 24 days in 1899, 1·786 inches on 14 days in 1898, 2·694 inches on 17 days in 1897, only ·720 inch on 14 days in 1896, and with a twenty-five years' average (1865–1889) of 2·200 inches on 17·3 days.

At Knockdolian, Greystones, Co. Wicklow, the rainfall was 3·766 inches on 24 days, compared with 4·395 inches on 24 days in 1899, 2·345 inches on 13 days in 1898, 3·660 inches on 20 days in 1897, only ·485 inch on 7 days in 1896, and 6·190 inches on 19 days in 1895. The heaviest falls in 24 hours were 1·060 inches on the 1st, and ·565 inch on the 3rd.

At Cloneevin, Killiney, Co. Dublin, the rainfall was 2·82 inches on 25 days, ·83 inch being measured on the 1st. The average fall in January for the 15 years, 1885–1899, was 2·294 inches on 16·9 days. In 1895 the rainfall was 5·930 inches on 24 days, in 1896, ·700 inch on 9 days, in 1897, 3·080 inches on 20 days, in 1898, 1·580 inches on 13 days, and in 1899, 2·93 inches on 22 days.

At the National Hospital for Consumption, Newcastle, Co. Wicklow, rain fell to the amount of 3·810 inches on 25 days, the maximal falls in 24 hours being 1·110 inches on the 1st, and ·423 inch on the 3rd. The shade thermometers rose to 51·0° on the 12th, and fell to 35·0° on the 29th. In January, 1899, the rainfall at this Second Order Station was 4·760 inches on 23 days.

At Recess, Connemara, Co. Galway, the rainfall in January amounted to 6·623 inches on 27 days. The maximal fall in 24 hours was ·933 inch on the 5th. The month was wet and dreary, with frequent gales from the S.W.

Abstract of Meteorological Observations taken at Dublin (40 Fitzwilliam-square, West) during the Year 1899.

MONTH	Abs. Max.	Date	Abs. Min.	Date	Mean Daily Max.	Mean Daily Min	Rainfall	Rainy Days	Mean Height of Barometer	Highest Pressure	Date	Lowest Pressure	Date	Prevalent Winds
	°		°		°	°	"		"	"		"		
January -	55·7	4th	28·3	24th	47·8	37·6	2·483	24	29·717	30·667	26th	28·803	1st	W., S.W., S.
February -	56·0	9th	29·0	27th	49·0	38·9	2·168	15	29·746	30·628	28th	28·772	18th	S.W., S.E.
March - -	59·9	31st	26·6	22nd	51·2	38·9	·911	12	30·053	30·685	1st	28·985	8th	W., S.W., N.W.
April - -	64·0	28th	35·1	16th	54·8	42·3	1·995	20	29·796	30·257	22nd	28·965	13th	N.W., W., S.W.
May - -	69·6	31st	38·0	27th	58·7	44·9	2·095	16	30·001	30·538	28th	29·334	15th	N.E., E., W.S.W.
June -	74·4	11th	45·9	19th	68·8	53·8	1·643	8	30·071	30·466	9th	29·392	20th	N.E., N.W., W.
July - -	74·9	5th	49·1	13th	68·2	56·2	3·121	12	30·086	30·471	31st	29·439	1st	N.W., W., W.S.W.
August - -	77·8	24th	49·1	10th	70·4	56·4	3·784	10	30·070	30·392	1st	29·595	29th	E., E.N.E., W.
September -	71·8	4th	39·0	28th	62·2	50·1	2·748	21	29·859	30·273	9th	29·258	30th	N.W., W., S.W.
October - -	65·1	18th	32·9	6th	57·1	43·2	1·538	11	30·022	30·378	8th	29·330	1st	S.W., W.
November -	64·9	4th	38·1	19th	55·1	46·2	1·964	13	30·044	30·697	17th	28·784	3rd	S.W., W.
December -	61·0	6th	25·5	27th	46·6	37·3	3·287	24	29·804	30·469	2nd	28·330	29th	S.E., N.W.
Extremes, Totals, and Means	° 77·8	Aug. 24th	° 25·5	Dec. 27th	° 57·5	° 45·5	" 27·737	Days 186	" 29·939	" 30·697	Nov. 17th	" 28·330	Dec. 29th	W., S.W., N.W.
					51·5°									

JOHN WILLIAM MOORE, B.A., M.D., Univ., Dubl.; P.R.C.P.I.;
F. R. Met. Soc.

January 4, 1900

Rainfall in 1899.

At 40 Fitzwilliam-square, West, Dublin.

Rain Gauge:—Diameter of funnel, 8 in. Height of top—Above ground, 1 ft. 4 in.; above sea level, 50 ft.

Month	Total Depth	Greatest Fall in 24 Hours		Number of Days on which ·01 or more fell
	Inches	Depth	Date	
January, -	2·483	·469	6th	24
February, -	2·168	·488	20th	15
March -	·911	·285	25th	12
April, -	1·995	·382	24th	20
May, -	2·095	·358	17th	16
June, -	1·643	·903	20th	8
July, -	3·121	1·402	11th	12
August, -	3·784	[a] 2·227	[a] 5th	10
September, -	2·748	1·042	30th	21
October, -	1·538	·263	11th	11
November, -	1·964	·389	3rd	13
December, -	3·287	1·129	28th	24
Total, -	27·737	—	—	186

The rainfall was ·041 inch in excess of the average annual measurement of the twenty-five years, 1865–89, inclusive—viz., 27·696 inches.

It is to be remembered that the rainfall in 1887 was very exceptionally small—16·601 inches, the only approach to this measurement in Dublin being in 1870, when only 20·859 inches fell, in 1884, when the measurement was 20·467 inches, and in 1893 with its rainfall of 20·493 inches. In seven of the twenty-five years in question the rainfall was less than 26 inches.

The scanty rainfall in 1887 was in marked contrast to the abundant downpour in 1886, when 32·966 inches—or as nearly as possible double the fall of 1887—fell on 220 days. Only twice since these records commenced has the rainfall in Dublin exceeded that of 1886—namely, in 1872, when 35·566 inches fell on 238 days, and in 1880, when 34·512 inches were measured on, however, only 188 days.

In 1899 there were 186 rainy days, or days upon which not less than ·005 inch of rain (five-thousandths of an inch) was measured. This was distinctly below the average number of rainy days, which was 194·3 in the twenty-five years, 1865–89, inclusive. In 1868 and 1887—the warm, dry years of recent times—the rainy days were only 160, and in 1870 they were only 145.

[a] Maximum.

The rainfall in 24 hours, from 9 a.m. to 9 a.m., exceeded one inch on 4 occasions in 1899—namely, July 11th (1·402 inches); August 5th (2·227 inches); September 30th (1·042 inches); and December 28th (1·129 inches). In 1892 the daily rainfall twice exceeded 1 inch—viz., May 28th (2·056 inches) and August 16th (1·310 inches). On no occasion in 1893 did one inch of rain fall on a given day in Dublin. In 1894 falls of upwards of an inch of rain in 24 hours were recorded on four occasions—viz., May 15th (1·330 inches); July 24th (1·560 inches); August 25th (1·369 inches); and October 23rd (1·042 inches). In 1895, 1·802 inches fell on January 12th; 1·014 inches on July 24th; and 1·256 inches on July 25th. In 1896, 1·563 inches fell on July 8th; 2·020 inches on July 24th; and 1·388 inches on December 8th. In 1897, 1·166 inches fell on September 1st. In 1898, on November 23rd, 1·732 inches were measured. The excessive rainfall accompanying the thunderstorm of August 5th and 6th in Dublin is noteworthy—it amounted to 2·227 inches in Dublin (Fitzwilliam-square). It was the fifth occasion only since 1865—that is, in 35 years—upon which 2 inches have been measured in Dublin at 9 a.m. as the product of the preceding 24 hours' precipitation. The previous excessive falls were—August 13th, 1874 (2·482 inches); October 27th, 1880 (2·736 inches); May 28th 1892 (2·056 inches); and July 24th, 1896 (2·020 inches).

Included in the 184 rainy days in 1899 are 13 on which snow or sleet fell, and 15 on which there was hail. In January and in February hail was observed on 1 day, in March on 5 days, in April on 3 days, in May, June, and October, on 1 day, and in November on 2 days. Snow or sleet fell on 3 days in January, 1 day in February, 5 days in March, 1 day in April, and on 3 days in December. Thunderstorms occurred once in April, June, July, and September, and 3 times in August. Thunder alone also occurred once in May, July, and September; 4 times in August. Lightning was also seen twice in February, once in June and October, twice in September, and four times in August and November.

The rainfall in the first six months was 11·295 inches on 95 days. The rainfall exceeded 3 inches in July (3·121), August (3·784), and December (3·287). In March it was only ·911 inch on 12 days.

The rainfall was distributed as follows:—5·562 inches fell on 51 days in the first quarter, 5·733 inches on 44 days in the second, 9·653 inches on 43 days in the third, 6·789 inches on 48 days in the fourth and last quarter.

More or less fog prevailed on 71 occasions—10 in January, 7 in February, 4 in March, 4 in April, 3 in May, 1 in June, 5 in July, 7 in August, 3 in September, 13 in October, 3 in November, and 11 in December. High winds were noted on 112 days—13 in January, 12 in February, 9 in March, 10 in April, 6 in May, 3 in June, 5 in July, 9 in August, 13 in September, 8 in October, 16 in November, and 8 in December. The high winds amounted to gales (force 7 or upwards according to the Beaufort scale) on 38 occasions—8 in January, 5 in February, 2 in March, 5 in April, 1 in July, 6 in September, 1 in October, 7 in November, and 3 in December.

NEW PREPARATIONS AND SCIENTIFIC INVENTIONS.

Iodine Vasogen.

Iodine Vasogen consists, as the name implies, of a solution of pure iodine in "vasogen." By vasogen is meant oxygenated vaselin—that is, simple hydrocarbons impregnated with oxygen. Three kinds of iodine vasogen are made, of six, ten, or twenty per cent. strength respectively. At the meeting of the Berlin Medical Society, May 4, 1898, Dr. Friedländer read a paper on this new remedy. This paper was published in the *Berliner klinische Wochenschrift*, No. 21, 1898. From it we gather that the author had, up to the date mentioned, employed iodine vasogen (6 per cent.) in 132 different cases—externally in 81 and internally in 51 cases. In summarising his observations Dr. Friedländer states that iodine vasogen in most, though not in all, cases may be substituted for the ordinary iodine preparations, both for external and for internal use, and is preferable to most of them. It should be used especially for inunctions upon the skin and mucous membranes in place of tincture of iodine, and internally as a substitute for the salts of iodine and for cod-liver oil. As regards the several indications for its external application he confirms those hitherto given, with the exception of whooping-cough and syphilis, and names in addition pleurisy, exudates of the female sexual organs, alveolar periostitis, non-specific ulcers, and scrofulous eczemas. As to the dose, from 10 drops to half a teaspoonful may be slowly rubbed in with the palm of the hand two or three times a day. Internally, from 5 to 30 drops may be given three times a day in milk, or tea, or coffee—a smaller dose to children according to age. Although, as Dr. Friedländer points out, the taste of iodine vasogen is not very pleasant, being fatty like petroleum, and having the flavour of iodine, still only one of his patients refused

the preparation, and children never objected to it. Iodine vasogen is manufactured by Messrs. Pearson & Co., of Hamburg. The sole agent for the United Kingdom is Mr. E. J. Reid, Dunedin House, Basinghall-street, London, E.C.

Dylissia Medical Cream.

This is one of a series of preparations of "Dylissia" made by Messrs. Durant and Co., 19 Mount Pleasant, London, W.C., for toilet and medical use. "Dylissia Medical Cream" is apparently a combination of borax and zinc oxide, with a purified and perfumed lanoline. It acts as an emollient, relieves itching, and allays irritation. In eczema and acne it possesses considerable curative power. The preparation is sold in neat boxes of enamelled tin which enhance the attractiveness of what is really a valuable therapeutic agent in skin affections of various kinds.

Antikamnia and Codeine Tablets.

The Antikamnia Chemical Company, St. Louis, U.S.A., have forwarded to us through their London Agent, Mr. John Morgan Richards, 46 Holborn Viaduct, E.C., samples of their tablets of antikamnia (plain) and of antikamnia with codeine. The former are so well known that it seems scarcely necessary to do more than allude to them as an excellent means of prescribing acetanilide, of which they largely consist, in combination with caffeïn and sodium bicarbonate. The antikamnia and codeine tablets are each composed of four and three-quarter grains of antikamnia and a quarter of a grain of codeine. This is a valuable combination, but, in our opinion, one which should be dispensed only when ordered in a prescription by a physician or surgeon. The tablets are put up in one ounce packets, which are very properly supplied only to medical men or chemists.

THE CHAIR OF SURGERY, QUEEN'S COLLEGE, CORK.

Dr. C. Yelverton Pearson has been appointed to this Chair by His Excellency the Lord Lieutenant in succession to the late Dr. Stephen O'Sullivan. Dr. Pearson is a Graduate in Medicine and Surgery of the Royal University of Ireland, a Gold Medallist and First Honorman of the Queen's University of Ireland. Since 1884 he had filled the Chair of Materia Medica in Queen's College, Cork. He is also Surgeon to the Cork North Charitable Infirmary and to the County and City of Cork Hospital for Women and Children. The appointment is an excellent one, and we congratulate Dr. Pearson and the Government alike upon it.

THE DUBLIN JOURNAL

OF

MEDICAL SCIENCE.

APRIL 2, 1900.

PART I.

ORIGINAL COMMUNICATIONS.

ART. XI.—*A Fatal Case of Congenital Bullous Eruption in an Infant.*[a] By RICHARD H. KENNAN, M.D.; Assistant Surgeon, Sir P. Dun's Hospital.

THE case I have the honour to put before you is one of congenital bullous eruption. I have preferred to give it this description inasmuch as it does not seem perfectly certain to what class of infantile bullous eruption it should be most correctly placed, and the main interest of its consideration centres round the question of its ætiology.

Before describing the case I would like to make a few remarks on the subject of bullæ occurring on the infant.

The cases seem to me to arrange themselves generally into two great classes. Pemphigus neonatorum I take as one. It is described by Radcliffe Crocker as occurring sporadically in unhealthy dwellings, and endemic in certain hospitals and in the practice of particular midwives.

The bullæ make their appearance a variable time after birth; the fluid contained in them is clear; they make little preference in their choice of locality, and patients tend to recovery.

Tilbury Fox (3rd Ed., p. 212) has, however, described severe and fatal cases.

[a] Read before the Medical Section of the Royal Academy of Medicine in Ireland, on Friday, March 9, 1900.

Malcolm Morris, in his book on "Diseases of the Skin," p. 144, describes the affection in the following words:—

"The so-called pemphigus neonatorum is an affection met with in newborn infants, characterised by the eruption of bullæ on the thighs, buttocks, face, and other parts, accompanied by greater or less constitutional disturbance. The children are free from syphilitic taint, and are often well nourished."

"The affection is not, as a rule, of any gravity, but occasionally it assumes a malignant type, the contents of the bullæ being dark and fœtid, and gangrenous ulceration taking place with constitutional symptoms of great severity, causing death in 10 or 12 days" (Tilbury Fox).

An interesting case is recorded by Dr. Jones Greer in the *British Medical Journal*, Vol. I., 1894, p. 1241, of a child on whose chest, buttocks and neck appeared bullæ on the third or fourth day after birth. Death supervened on the eighth day, after a similar eruption had appeared on its mother's chest, buttocks, and face. The mother died seventeen days after the appearance of the rash, death being ascribed to pneumonia. There was neither history nor sign of syphilis.

Of the occurrence of pemphigus neonatorum in epidemic form, and associated with the practices of a midwife, Dr. Jükorsky, of St. Petersburg, gives an interesting record, which has been epitomised in the *British Journal of Dermatology*, 1891, p. 368. It concerns an epidemic in summer amongst infants of the poorer class. Twelve infants were affected, and they had all been delivered by the same midwife, who was of slovenly habits. The first two victims were not seen by the reporter. The blebs appeared first and most markedly on the upper part of the body, head, and face, but, even in the fatal cases, never appeared on the soles of the feet. The conjunctiva and oral mucous membrane were affected in some cases. The disease spread to brothers, sisters, and mothers.

The second class I take to be the pemphigoid eruption of hereditary syphilis. Crocker says infants are often born dead, others are born alive with it. The hands and feet are the situations on which the bullæ first and principally

are found. The contents of the bullæ tend to become sanguineous, the differential diagnosis being readily made by observing the nature, time of appearance, and position of the bullæ, and the associated cachexia, from pemphigus neonatorum.

A case is recorded by Dr. Knight in the *British Medical Journal*, Vol. I., 1893, p. 1264, of an infant who showed bullæ on both hands and feet, of deep coppery-red colour, associated with erythema on the face without bullæ. The mother had mucous tubercles at the time. The infant was her second; the first had been still-born and decomposed.

Since writing the bulk of this paper Dr. Walter Smith has very kindly called my attention to the article by Dr. Wallace Beatty in the *British Journal of Dermatology*, Vol. IX., p. 301, August, 1897, on "Epidermolysis Bullosa," which I have referred to, but I do not think the present case can be included under that head. I think it will be agreed that this case does not readily fall into either of the two great classes I have described, though to one of them it, in all probability, belongs.

Case.—The infant, W. C., came under my care when I was on duty for Dr. Ball in Sir P. Dun's Hospital, on 18th August, 1899. The infant was brought by his aunt, who stated that it was born on the night of the 15th inst. It was a full-term male infant, below the average size, fairly well nourished, and provided with a considerable growth of hair. Its skin had the reddish-brown, jaundice-like colour of the new-born. The sclerotics were white, but in the left eye a small sub-conjunctival hæmorrhage was seen. The stump of the umbilical cord was normal; the anterior fontanelle was depressed.

The sole and dorsum of the *left foot*, with the exception of the heel and dorsum of the third and fourth toes, were ulcerated, and of a deep purple-red colour; shreds of epidermis were adherent to the margins. The discharge was slight, non-hæmorrhagic, with slight, if any, purulent characters; the edges were sloping and slightly sinuous. The surrounding skin was normal, and there was neither œdema nor inflammatory reaction in the neighbourhood of the patches. The area extended up over and around the ankle, and up the shin for a short distance. On the dorsum of the right great toe a partially collapsed bulla was present. There was a bulla full of clear, yellow fluid on the back of the *left elbow*, and

on the dorsum of the fingers of the *right hand* there were collapsed bullæ. The child's tongue, lips, and gums were raw-red, with shreds of epithelium, partially detached, hanging from them. The skin of the buttocks was inflamed and excoriated. There was no evidence of snuffles or condylomata.

19th August.—Bullæ had appeared on the dorsum of the fingers of the *left hand* and on the *right elbow*. A bulla was found on the œdematous scrotum, and another above the right heel.

20th August.—The patient was admitted to hospital. No fresh bullæ had appeared. The infant was fretful, though it slept and took nourishment fairly well. It temperature was 102·6° F. in the axilla. The cardiac and respiratory sounds were normal. Neither the spleen nor the liver was palpably enlarged, and lymphatic glands could not be felt anywhere. The contents of one of the bullæ were removed by Dr. O'Sullivan, who very kindly undertook the examination for me.

21st August.—The bulla on the left elbow burst, but when the epidermic shreds were removed fine hair could be distinctly seen covering the inflamed area. The anterior fontanelle was much depressed, and the cranial bones tended to override one another. The child's cry was hoarse. The pupils were equal. Movement of arms and legs was normal, as apparently was also tactile sensibility.

22nd August.—Spasmodic contractions occurred occasionally in its arms when disturbed to be fed. The bowels have moved frequently.

23rd August.—Child died without definite convulsions having appeared. Treatment consisted in hydargyri cum créta, gr. i., *ter in die*, for three days; and then gr. ss., *ter in die*, wine whey, and humanised milk.

I am indebted to Mr. George White for the trouble and care he so kindly took in photographing the child after death, and the skill with which he has prepared enlargements. An attempt was made to obtain pictorial records of the cutaneous lesions before death, but owing to the restlessness of the patient it proved unsuccessful.

It may be of interest to note that before the withdrawal of the contents of the bulla it appeared to be of a slightly reddish colour; in the syringe, however, the fluid was seen to be a clear, pale straw-yellow colour. It seems reasonable to suppose that the same coloured fluid may present different appearances, not only according to the covering through which it is seen, but also according to the character of the surface on which it rests.

Dr. O'Sullivan found the fluid which he removed to be sterile. I have to express my thanks to Dr. O'Sullivan and Dr. Littledale

for the assistance they so very kindly gave me in the pathological investigation of the case.

The child's father (a carman) was interviewed. He said his age was twenty-nine years. He had been healthy all his life, except that he had small-pox when a lad. He denied ever having had a rash of any kind, except variolar sore throat, or sores. He was examined for signs of syphilis, but none could be discovered. He stated the sanitary arrangements of the house were quite satisfactory. He appeared to belong to a somewhat better class than those who usually seek relief from hospital.

26th August.—The child's mother was interviewed. She was twenty-seven years of age. She was married five years ago, when twenty-two years old. She had never suffered from any complaint except toothache. She appeared to be anæmic, but otherwise healthy. She said she felt better after the birth of her last child than she had done at the same time after the birth of her other children. Her breasts were fairly full, and she suffered a good deal from tingling pain in them, which had been relieved by the application of belladonna plaster and the administration of potassium iodide. The nipples were large, and pigmentary areolæ were well marked. No milk could be squeezed from them. No evidence whatsoever of syphilis could be found.

The history of her pregnancies was as follows :—

First pregnancy was a male, full term, 12 months after marriage ; born in the Rotunda ; lived only 24 hours ; died of convulsions. The labour was normal.

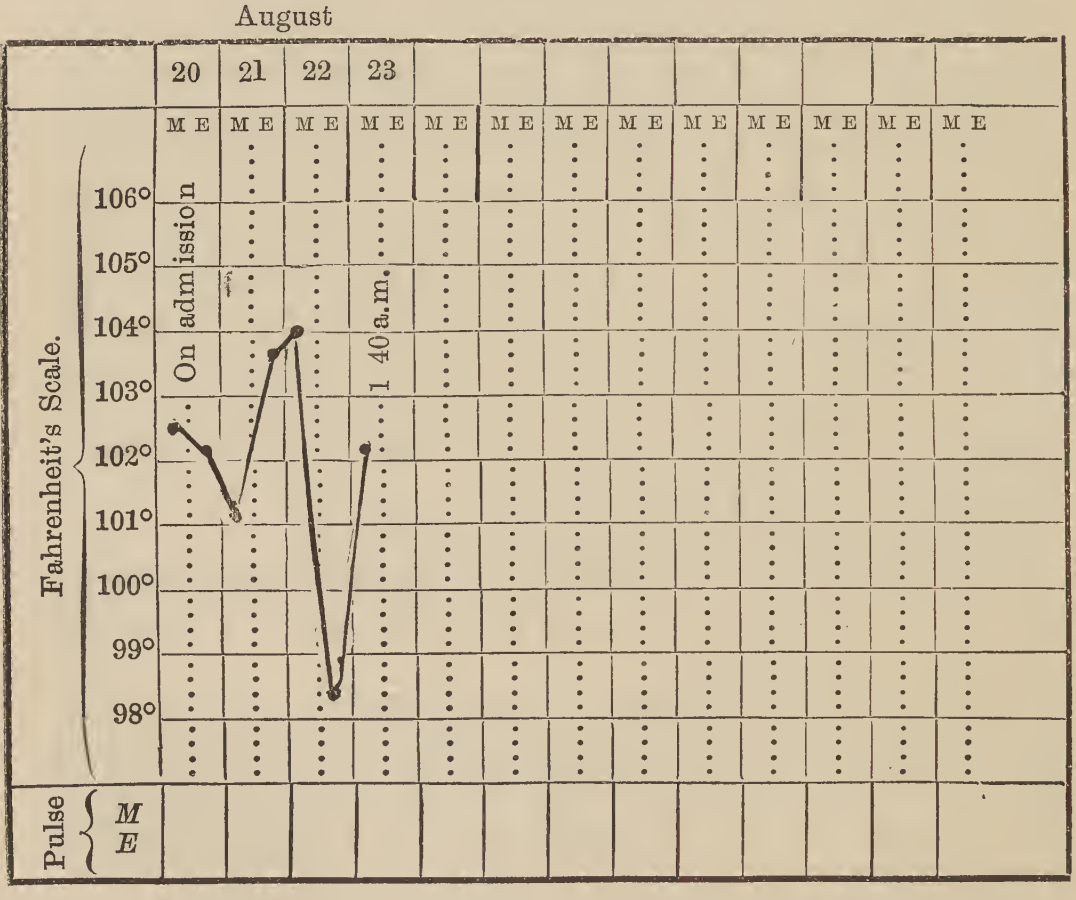
Second pregnancy—Female. Labour normal ; healthy ; now three years of age. She is somewhat delicate, but suffers from no definite trouble, and has never had snuffles, rash, sore throat, or condylomata. No sign of hereditary syphilis could be found on examining her.

Third pregnancy—Male, 1 year and 7 months after the birth of the second ; was full term ; died, at three months of age, from diarrhœa and vomiting, after a few days' illness. It had never had snuffles, rash, or sores. Labour had been normal.

Fourth pregnancy—Male (the subject of this paper). When three months pregnant the mother was frightened by the horse in the yard, and in consequence fell ; but this was not followed by signs of threatened abortion. She felt no "life" till over a month afterwards.

The midwife (Mrs. D.) said she arrived after the membranes had ruptured. The presentation was vertex ; the labour normal ; the cord and placenta appeared to be normal. There was no

blister on the child at birth, but the left foot was ulcerated, in consequence of which the child was not bathed. A blister was noticed on the left elbow next morning, and its mouth was sore. She had never before seen a similar case, or known of such an one in the district. The mother's temperature remained normal all through her puerperium. The midwife appeared to be very intelligent, and showed more than average knowledge of her work. I regret, however, that she was unable to give any information as regards the child's temperature at birth.



The *post-mortem* examination was performed by Dr. O'Sullivan, Pathologist to the Hospital. The body weighed 6 lbs., the liver 6 ounces. The cranial bones, the meninges, and brain showed no evidence of disease. The anterior part of the tongue was denuded of its epithelium; the larynx was inflamed; the vocal cords were involved in an inflammatory exudation, by which their identity was somewhat obscured. The lungs were congested, and no evidence of pneumonia was found. The pleuræ were healthy, and their sacs contained no excess of fluid; the heart and pericardium also were free from abnormality. The stomach, intestines, and lymphatic glands showed no indication of disease. The liver presented

no gross pathological appearance apart from general congestion. The spleen was small, the testicles healthy. The suprarenal glands were not manifestly diseased; the kidneys and pancreas also. A piece of the skin at the dual verge, which was inflamed and ulcerated, was removed, as well as a piece from the floor and margin of the ulcerated area on the sole of one foot, for microscopical examination. The lower end of the left femur was also removed for the same purpose. Portions of the lungs, spleen, kidneys, liver, pancreas, testicles, skin, and lower end of femur were microscopically examined. No pathological change, except great vascular congestion, could be discovered. The practical result of the *post-mortem* investigation consisted in the demonstration of the entire lack of definite evidence of hereditary syphilis having affected the infant.

Jonathan Hutchinson, in his work on syphilis, on page 418, says—"Whether there be any infantile condition not connected with syphilis in which bullæ occur on both hands and feet, *and are of dangerous import*, I am not competent to say. Should any such come under observation they would well merit careful investigation and record." I have been largely influenced by this statement in considering whether the record of this case would merit report, and it will, I trust, serve as my justification for bringing it forward. Again, on page 79, he says—"It is a most noteworthy fact that if syphilis affect the fœtus it almost invariably causes its death, for nothing is less common than for an infant to be born alive with extant signs of taint. Three weeks or a month almost invariably intervene before the eruption, snuffles, &c., appear. A very perplexing exception to this occurs in the case of what is known as infantile pemphigus. In this disease the eruption may appear in an apparently healthy child within a day or two of birth, and the case may end in death within a week. These cases need further investigation, and it is hopeless, in our present state of knowledge, to attempt to explain them."

As to the existence of signs of syphilis in living infants born at full term, we must receive the published testimony of the older surgeons with caution. Not having the importance of this special point in mind, they often

assumed on seeing a syphilitic infant that it had been born with the symptoms. Obstetricians would probably give evidence of a different kind. Thus, whilst Diday, who had enjoyed very extensive opportunities of special observation, had never once seen signs of syphilis present at birth, we find Sir Astley Cooper stating that he had seen several children born with "copper" coloured eruptions on the palms, soles, and buttocks. Probably all that he meant is that the infants were young when first seen by him. I have never myself seen an infant born with a syphilitic eruption or one in whom the evidence was clear that such an eruption was present at birth. In spite, however, of some scepticism, the facts must be accepted that such infants are occasionally seen.

Rondelet, Doublet, Gilbert, Guerard, and Laudman are all quoted by Diday as having published single cases in which infants were born with characteristic eruptions.

In the "Treatise on Syphilis in New-born Children and Infants at the Breast," by P. Diday, translated by G. Whitley for the New Sydenham Society, on page 70, he says:—"Some children present at birth or a few days after it an eruption of bullæ, the principal seats of which are the soles of the feet and palms of the hands." He admits, however, the possibility that eruption may be present on the trunk. The contents are referred to as blood mixed with pus.

"Such a group of phenomena being present the inference of a syphilitic origin will be the more confident in proportion as the admissions of the parents and the co-existence of other evident signs of syphilis give it support." Wichman is referred to as the propounder of this theory at the end of last century, and Jörg, Dugès, Stoltz, and Cazenave as favouring it; while Osiander (in 1794) and Krauss and Gilibert are against it.

The striking discussion at the Academy of Medicine in Paris, in 1851, between the chief representatives of the two opinions is detailed—how Paul Dubois argued for its syphilitic origin, while Cazeaux pleaded its innocence of that taint.

On page 74 it is stated that, "Certainly if all pemphigoid

children proceeded from parents infected with syphilis, and all also presented, simultaneously with the bullæ, evident traces of constitutional syphilis, we might shut our eyes to the want of characteristic marks, and regard these co-incidences as proofs. But this is not so. Under such circumstances we often address—and regret to have done so without any result—a biassed inquiry to the father and mother. Most frequently pemphigus is the sole appreciable lesion in the child."

It must be remembered that at this time the discussion was whether all cases of infantile pemphigus were of syphilitic origin, and not as to which were and which were not of such origin.

He adds—"Let us confess, however, that the number of cases of infantile pemphigus in which the existence of venereal disease in the parents has been ascertained has been sufficient to make an impression upon unprejudiced minds; and although most of the members of the Academy still entertain doubts as to the nature of this eruption, the mixed opinion—that of conciliation—which makes it not an immediate result of syphilis, but an indirect sequela of the exhaustion which that disease produces, has obtained many suffrages. I adopt this solution, but would fain explain and define it."

He is then careful to point out that though syphilis is, when present in the parents, a source of enervation, there are many other enervating elements which may be present in parents. Notwithstanding this, he says syphilis in the parent will much more frequently account for it than any other cause.

Lancereaux, in his "Treatise on Syphilis," Vol. II., p. 142, translated for the New Sydenham Society, 1869, says:—"While in the adult it (pemphigus) is almost always independent of syphilis, in the child, on the contrary, it most frequently co-exists with changes, the syphilitic origin of which is indisputable, and on that account it has long been held that a causal relation existed between the pemphigus of new-born children and the venereal disease."

. . . . "In 1837 Depaul introduced into a new

phase the question at issue by the connection which he established between the pemphigus of new-born children and certain co-existing pulmonary lesions."

After referring to the discussion in Paris in 1851, he says (p. 143):—"Since that time Desruelles, Fèvre, Bamberger, Olivier and Ranvier, and H. Roger, have brought fresh cases in support of the doctrine that pemphigus of the extremities is a manifestation of hereditary syphilis." Then follows a list of many who accept and advocate this view. He then says:—"Men of great merit, however, still hesitate to pronounce themselves on this point, or do not partake of the view which appears to us to be the most correct one."

Tilbury Fox, in his work on "Skin Diseases," to which reference has already been made, says:—"Pemphigus is almost always chronic, but there is an acute form, and, therefore, in accordance with most authors, I make two groups—acute and chronic. Acute pemphigus is seen in children, and is practically synonymous with pemphigus neonatorum. Now the greatest doubt exists as to the nature of this affection. According to Dr. Steffen there are three forms—(1) pemphigus occurring in children apparently healthy, and ending favourably; (2) pemphigus in children who have been badly nourished, or who have fallen into a state of marasmus, and in whom it is, therefore, the result of cachexia; and (3) syphilitic pemphigus. . . . . It seems clear to me that there is a non-syphilitic and a syphilitic form." He says further, concerning syphilitic pemphigus neonatorum acutus:—"It occurs not as an epidemic, but in connection with other symptoms of congenital syphilis, and is well marked about the hands and feet soon after birth; it may give rise to deep ulceration."

Haight is quoted as having "shown that the fluid in pemphigus is collected between the layers of the horny portion of the epidermis."

The fluid in the bulla on the left elbow in the case I have read was most probably in this situation, inasmuch as fine hair could be distinctly seen covering the area which had been occupied by it after its contents had been

expelled and the thin shreds which remained of the covering had been removed.

If, then, it be admitted that there is a syphilitic and a non-syphilitic bullous eruption which attacks the infant, is one justified—no assistance being obtainable by the examination of the parents or other members of the family—in making the diagnosis of syphilis when the bullæ are confined to the hands, feet, and buttocks? or, on the other hand, should they be found trespassing on other parts, and avoiding the hands and feet, must the case be relegated to the non-syphilitic class?

I may, perhaps, be allowed in conclusion to briefly reiterate the points of the case which have seemed to me to render it of sufficient difficulty to justify me in asking the kind assistance of the members of this Academy in trying to form a clearer conception of the true nature of the forces at work which produced the appearances and result.

If it be not regarded as a case of syphilitic congenital bullous eruption, it must, as it seems to me in the present state of our knowledge, be included in the only other well-defined class—that which most commonly receives the name pemphigus neonatorum. The fatal termination, though not absolutely negativing such a diagnosis, at any rate removes it from association with the majority of such cases. Again, the remarkable localisation of the sites of the earliest and severest cutaneous lesions—viz., the hands and feet—still further assist in making its correct inclusion amongst that class very problematic. On the other hand, if it be received amongst those cases owning a syphilitic cause, we are opposed by the facts that—Firstly, no evidence could be gained from the parents, either by interrogation or examination, which could in any degree point to the existence of syphilis in them. Secondly, that though it is true but one of the three previous pregnancies was successful in producing a child which has passed safely through the period of infancy, there is nothing in this fact alone to give any assistance of a positive kind; further, the second, or surviving, child has neither history nor sign of congenital taint. Thirdly, *post-*

mortem examination has failed to establish confirmatory evidence in favour of a syphilitic origin.

I am aware that one of these considerations taken alone would give but slender ground for the justification of an opinion, but taken together they must, I think, be allowed considerable weight.

ART. XII.—*Notes on a Case Simulating a Perforating Gastric Ulcer.*[a] By WILLIAM JOHN THOMPSON, M.D. Univ. Dubl., M.R.C.P.I., Physician to Jervis-street Hospital; and F. CONWAY DWYER, M.D., F.R.C.S.I., Surgeon to Jervis-street Hospital, Dublin, Examiner in Surgery R.C.S.I.

FOR the past few years so many successful cases of operation for perforating gastric ulcer have been recorded that it is now universally admitted both by physicians and surgeons that all cases (except those in which there are some distinct, unfavourable symptoms) should be operated on as soon as possible after the perforation has taken place. It has, however, been pointed out by many writers—Van Valzah, Nesbit, and others—that occasionally there are some difficulties to be encountered in arriving at a correct diagnosis, and consequently there may be some uncertainty and possibly delay in operating, which may mean life or death to the patient. Looking over a number of cases reported from time to time, I frequently find some of the symptoms which are usually looked upon as pathognomonic absent, and in any one case it is almost the exception, rather than the rule, to find all the classical symptoms present. The case which my colleague, Mr. Conway Dwyer, and myself are bringing forward before the Medical Section of the Royal Academy is, in our opinion, a good example of the difficulties met with in forming an accurate diagnosis. Although all the usual symptoms were not present, we think we were justified in looking upon the case as one of perforation and in advising operation. The operation

[a] Read before the Section of Medicine of the Royal Academy of Medicine in Ireland, on Friday, March 9, 1900.

proved our diagnosis to be at fault; but still we have the gratification of believing that it saved the patient's life. We therefore thought that, perhaps, short notes on the case might be of some interest to the Fellows and Members, and might possibly lead to some useful and profitable discussion.

The following is the history and subsequent treatment of the case:—

Early on the morning of December 22nd, 1898, I was asked by a patient of mine to see his housemaid, whom, he stated, had taken seriously ill during the night. From the girl herself, aged twenty-three years, who looked very thin and anæmic, and who seemed to be suffering great pain, I got the following history:—Both her father and mother died when she was quite a child, and she believed they died from phthisis. Her two brothers and one sister had, in adult life, succumbed to the same disease. She had only one sister living, who was strong and healthy, and who was three years her senior. She herself had never been robust, although up to that date she had not suffered from any protracted or acute illness. For the previous five or six weeks she had been affected with stomach trouble, which had gradually become so severe that for some days she had found it impossible to take the ordinary food, and was obliged to keep on slops. In the beginning of the attack she had discomfort and flatulency after food, with a tendency to nausea and a failing appetite. Later on, in addition, she had pain, at first localised to the pit of stomach and afterwards extending to the back, which usually commenced shortly after taking food, lasted a couple of hours, and was frequently followed by vomiting. She had not at any time, either before this attack or during the attack, suffered from constipation. On the night of the 21st she partook of bread and milk for supper, which was followed by the usual pain both in the epigastrium and dorsal region, with a nauseating feeling. About one hour after the meal, and when in bed, the pain in the epigastrium became suddenly severe and agonising, and was followed by vomiting. The vomited matter was, she stated, dark and reddish in colour, otherwise there was no indication of hæmorrhage. The pain got worse during the night, and became more diffuse. When I saw her there was distension of the epigastrium and upper portion of the abdomen extending towards the left side,

which was rigid and intensely tender on pressure. The liver dulness was not affected. She localised the original painful epigastric spot a little to right of median line, and a short distance below ensiform cartilage, and the pain in her back to the left of the lower dorsal vertebræ. Her temperature was 100·8°, pulse 124, and respirations, which were superficial and thoracic, 26 per minute.

As the previous history, symptoms, and physical signs pointed pretty strongly to a case of gastric ulcer which had perforated, and as there were no facilities for operating where the patient was, I suggested she should come into Jervis-street Hospital, which she did. On her admission—apparently not much the worse of being removed—my colleagues, after seeing and examining the case, concurred in this opinion, and thought her a suitable subject for operation. Accordingly, with as little delay as possible, Mr. Conway Dwyer, assisted by Mr. Cranny, operated about fourteen hours after what was considered the perforation. Immediately before the operation the pain, distension, rigidity, and intense tenderness had increased, the liver dulness had not been apparently affected, the temperature had risen to 102°, the pulse to 140, and the respirations to 34 per minute.

OPERATION.

With the assistance of my colleague, Mr. Cranny, I proceeded to at once operate on the patient, whose condition was as described above by Dr. Thompson. The abdomen was opened in the middle line by an incision extending from the ensiform cartilage to a point slightly to the left of the umbilicus. Owing to the extreme rigidity of the left rectus, which persisted even under deep ether narcosis, it was found necessary to enlarge the opening transversely before sufficiently free access could be obtained for efficient exploration. The anterior surface of the stomach was then examined, and nothing abnormal was found. No gas, fluid contents, or lymph was anywhere present—in fact, nothing to suggest the presence of any perforation. This appeared difficult to understand, taking into account the symptoms. I felt convinced that some serious condition must be present, and determined before examining the posterior wall of the stomach to further explore the abdomen. I enlarged the wound downwards, and immediately discovered a coil of the jejunum in an intensely inflamed condition, covered with thick flakes of lymph, and having on its surface

two almost gangrenous patches. No perforation had as yet taken place, but such a result was inevitable had there been any further delay. I drew the damaged coil outside the abdomen and isolated it by strips of iodoform gauze from the peritoneal cavity. I next very gently pressed the contents downward, and applied clamps, including between them nine inches of the bowel. This I resected, and effected the intestinal junction by means of a Murphy's button, reinforced by a few peripherally placed Lembert sutures. The abdomen was flushed with warm saline solution, the intestine returned, and the wound closed, all but the lower angle, through which I passed a gauze drain in the immediate neighbourhood of the sutured bowel. The question of drainage is an open one, but I confess that the possibility of leakage and its disastrous results more than counterbalance the advantages of rapid and complete union. The patient bore the operation well. The subsequent course of the case was uneventful. The temperature fell immediately after the operation, and never rose above normal, the bowels moved naturally on the fifth day, and the button came away on the eighteenth day. Dr. Joynt very kindly, at my request, skiagraphed the patient, but with a negative result. This, I think, was due to the fact that the button had dropped into the pelvis, and of course no shadow could be obtained.

This case illustrates impressively the fallibility of diagnosis, or perhaps it suggests that the interpretation of symptoms is occasionally too rigidly made. Here everything pointed to the existence of gastric perforation, the previous history, the urgent symptoms, and the great collapse—in fact, almost all the classical symptoms in their due sequence and severity were present; the only absent sign was the unaltered area of liver dulness; this has, however, been frequently noted.

Mr. Myles, in a recent communication of great interest read before the Surgical Section of the Academy, brought forward a series of examples showing the liability to error that exists in cases of this description, and frankly details his own experience. There can be no doubt that a similar candour on the part of other surgeons would swell the list to quite respectable dimensions.

The practical lesson to be learned from such cases as the one recorded is not to lose valuable time in academically

balancing probabilities, but to proceed at once to operation. If the case is one in which surgical aid is unavailing or unnecessary no harm will be done by a surgeon versed in the technique of abdominal work, while prompt interference has saved many lives.

I believe the lesion present was the result of infarction from mesenteric thrombosis. The specimen was unfortunately mislaid before a microscopic examination was made.

ART. XIII.—*Digitalis in Heart Disease.*[a] By REGINALD C. PEACOCKE, B.A., M.D., B.Ch., B.A.O. Univ. Dublin.

DURING the last few years the attention of medical men has been largely devoted to several new methods of dealing with diseases of the heart. For example, we have the treatment by "passive movements," consisting of a series of gentle manipulations of the different parts of the body—a mode of treatment first practised in Sweden by Ling and his followers; next we have what may be called a modification or development of the Swedish system—namely, the treatment by gymnastic exercises, consisting of a series of certain carefully regulated movements with limited resistance, a system which has been carefully worked out by the brothers Schott of Nauheim, and with which is combined in most cases a course of baths rich in mineral salts; lastly, we have the more heroic method of Oertel—by climbing heights.

Now, most observers agree that though all these systems have their uses in different forms and phases of heart disease, yet after all they only constitute a very valuable addition to, but by no means take the place of, the older methods of treatment by means of rest, diet, and medicine. Of all the medicinal remedies which from time to time have been used in the treatment of disease of the heart, the most valuable is certainly digitalis; and in order to fully understand in what morbid conditions benefit from its use may be expected, it will be necessary, first, to see what science teaches us with regard to its mode of action, and then to consider the practical results of clinical experience. The

[a] A Thesis read before the Regius Professor of Physic for the Degree of Doctor of Medicine in the University of Dublin, December, 1900.

view which is, I believe, generally adopted now is, that digitalis influences mainly the muscular tissues of the body, both striped and unstriped, although it may also owe some of its usefulness to minor effects exerted upon and through the vagus; of all the muscular tissues it acts chiefly upon that of the heart, next upon the unstriped fibres of the arterioles and the alimentary tract, and least—in fact only when a lethal dose is given—on the skeletal muscles; the vomiting and diarrhœa which digitalis sometimes causes, thus, theoretically at all events, only manifest themselves when we are giving more of the drug than is needed for action upon the heart, but, in practice, we occasionally meet with cases where we are obliged to abandon the remedy altogether, owing to the gastro-intestinal disturbance it produces.

As to the precise effect which digitalis has upon the muscular tissue, Professor Schmiedeberg has shown that it renders its elasticity more perfect, so that each fibre extends more completely, and increases its contractility, so that in contraction each fibre returns more perfectly to its minimal length; in accordance with this, the heart is found to expand more fully and to contract more perfectly, and so both diastole and systole are more deliberate, especially the former, while the latter becomes, in addition, more forcible.

Such is the mode of action of digitalis; it is now necessary to consider the various morbid conditions of the heart which derive benefit from its use.

From what has been said of the physiological effect of digitalis on the heart, it follows that, quite apart from any considerations derived from clinical experience alone, the presence of threatened heart failure arising from inefficient ventricular systole is an important indication for its use. Into the diagnosis of failure of the heart it is not now necessary to enter deeply; feebleness and irregularity of heart sounds and pulse, dyspnœa on exertion, dilatation of the cavities, cardiac dropsy and the diminution or loss of murmurs previously present—these all constitute a well-known picture, and are signs which point to inefficient systole, and consequently suggest the use of the best of all cardiac stimulants—digitalis.

But before discussing in detail the question of the use of this powerful drug in organic diseases of the heart, a word must be said with regard to its use in many cases of serious illness—such as pneumonia—when the danger of death arises from failing power of the heart; now, many observers state positively that digitalis is useless in such cases, and, consequently, it is with a certain amount of diffidence that I venture to differ from them; but, in my small experience, I have certainly seen two or three cases where it undoubtedly was of use, and in one patient, apparently moribund from phthisis, the administration of tincture of digitalis in half drachm doses certainly was the means of prolonging life. I think, too, in cases of severe illness—as in pneumonia or septicæmia—the administration of digitalis is often a very useful adjunct to alcohol in warding off the most to be dreaded of all complications—cardiac failure; nevertheless, all will admit that it is not in these cases that digitalis is seen to best advantage, but in actual organic diseases of the heart, to the consideration of which we must now turn our attention.

Speaking of the treatment of valvular disease Osler says:—"The indication for the use of digitalis is dilatation; the contra-indication is a perfectly balanced compensatory hypertrophy; broken compensation, no matter what the valve lesion may be, is the signal for its use."

This is a somewhat general statement, some might say a rather sweeping statement, but I think in the main an accurate one. When we have a case of broken compensation to deal with, in certainly by far the greatest number of cases digitalis is the drug most likely to be of use; but the benefit which we may expect from its administration varies, I believe, very considerably in the different forms of heart disease. The beneficial effects of digitalis are, I think, best seen in cases of mitral disease, with small, frequent and irregular pulse, and cardiac dropsy; occasionally in cases of this kind the speedy benefit which the patient derives after a very few doses is almost magical; patients with this form of disease usually bear the drug well, and the error most commonly met with is that of giving it in too small doses.

Again, in dilated and flabby and probably fatty hearts, with soft and often irregular or intermittent pulse, which

we meet with in old people, digitalis also acts admirably; in these cases large and frequent doses are not necessary, but the continuous administration of 5 to 15 minims of the tincture two or three times a week serves to keep the sufferer in comparative comfort, and may safely be given for several months at a time.

The use of digitalis in aortic diseases next requires attention. It is said that in pure aortic narrowing it is always suitable and applicable; the condition is a rare one, and lack of experience prevents my forming any opinion on this point.

It is with regard to aortic regurgitation, whether accompanied or not by stenosis, that so many eminent observers seem to differ. Osler says that digitalis is just as serviceable in aortic regurgitant cases as in any other conditions associated with progressive dilatation.

Taylor is more cautious, and says:—"There is a greater risk of syncope from aortic disease during the use of digitalis, unless this failing is fully compensated for by the more powerful action of the heart during systole."

Though I have never seen any really bad results from the use of digitalis in these cases, yet to maintain that it is suitable and applicable in all cases of double aortic lesion, or of regurgitation alone, with of course failure of compensation, is not borne out by my limited experience.

As we have seen, the action of digitalis is to prolong diastole while strengthening systole, and, theoretically at all events, the administration of the drug so as to produce this result, even in a slight degree, is attended with danger, for even moderate prolongation of diastole may give time for an amount of blood to regurgitate into the ventricle, which may lead to increased embarrassment or even fatal degree of over-distension. I think the pulse is our best guide in giving digitalis in cases of doubt; in the first place, if the pulse be from 60 to 70 digitalis is not at all suitable, while on the other hand many cases of aortic incompetence with a frequent pulse which can be slowed to about 70 are benefited by digitalis. There are, however, some cases with frequent pulse-rate—I particularly remember one, a man of about thirty, with history of rheumatic fever, with a double aortic murmur and all the signs of failing compensation—

in which the pulse is not influenced for good by digitalis, and in these cases there is often, I think, other evidence of acute changes proceeding in the endocardium. Another point of importance, determined by a careful study of the pulse, is the presence or absence of arterial spasm: it is readily recognised in the radial artery by the firmness of its wall, and this is quite appreciable notwithstanding the collapsing character of the blood-wave so noticeable in aortic regurgitation. The presence of this spasm is a contra-indication to the use of digitalis, which will be found to be, if not hurtful, at all events useless.

In actual experience it is very difficult to say whether a case of cardiac distress, due to dilatation and failing hypertrophy sequential to aortic disease, will be benefited by digitalis or not; the scientific fact that it prolongs diastole, which is the time that the secondary ill effects are produced when the aortic valve is leaking, is certainly not one to be lightly lost sight of, and in consequence of this fact I always prefer to try some other remedy first (usually nitroglycerine), and yet I can truthfully say that I have seen more cases of this disease in which digitalis has done good than cases in which it has failed to do good.

There is only one other class of cases which, though not perhaps strictly cases of heart disease, I should like to refer to briefly—namely, cases of acute alcoholism with what has been called a "flabby heart and pulse." These cases respond well to digitalis; it acts, I think, beneficially in two ways—first as a pure tonic to the ill-used "flabby" heart, and, secondly, by counteracting the depressing effects of those other drugs which the nature of the disease renders it necessary for us to administer.

In concluding these remarks about the uses of digitalis, I may perhaps mention that unfortunately in those cases of failing compensation sequential to organic heart disease, where in the past the drug has been of surpassing value, there comes at last a time when the distressing breathlessness, the steadily advancing dropsy, the frequent, weak and irregular pulse resist all remedies; now even the best of them all, digitalis, which many a time, alone, has triumphed over disease, and, so to speak, shut back the "opening door of death," is of no avail; sooner or later this time must

come in all cases of diseased heart, and one of the most difficult questions for the physician to decide, and one that he is very often called upon to decide is this—"When are we face to face with the final breakdown of compensation when the worn out, flickering heart must soon cease to beat for ever?"

ART. XIV.—*Clinical Reports of the Rotunda Hospitals, for One Year, November 1st, 1898, to October 31st, 1899.* By R. D. PUREFOY, M.D. T.C.D., F.R.C.S.I. (Master); and R. P. R. LYLE and H. C. LLOYD (Assistants).

(*Continued from page 206.*)

MULTIPLE PREGNANCY—TWINS.

TWENTY-EIGHT cases of this variety of multiple pregnancy were treated in the hospital during the year, giving a percentage of 1·82. The following table shows the presentations:—

Both Vertex	7
Vertex and Breech	9
Breech and Vertex	5
Both Breech	4
Vertex and Transverse	1
Vertex and Face (Locked) ...	1
Born in Membranes (5½ months) ...	1
Total	28

Twenty-one of these patients were confined at or near full term, and all these children, with one exception, were born alive. In this case the woman, a 6-para, had never given birth to a living child, and both the fœtuses were macerated. She carried them just beyond the eighth month, and the case is also recorded under "Hydramnios."

In 17 of these the natural efforts expelled both children. Two of them, one a 12-para and one a 7-para, had previously borne twins.

The case in which vertex and transverse presentation occurred was amongst the 7 premature deliveries. In only 2 of these cases had the children reached a viable period, and they were born alive. Two at an early period of pregnancy were expelled in the membranes.

One of these patients was pregnant for the twentieth time. Her age was forty.

In none of these multiple pregnancies was there any post-partum hæmorrhage.

The case of triplets occurred at the $6\frac{1}{2}$ month. The fœtuses, weighing one pound each, were born alive. They were all males, and had a common placenta. The first was a hand presentation, the second a footling, and the third was born in the membranes.

LOCKED TWINS.

R. D., aged twenty-six, 1-para, admitted August 16th in good labour. A bag of membranes was in the vagina, and contained some dark-coloured, foul-smelling fluid. When this had escaped a soft collapsed head was easily felt with the face of the second child fixed at the brim; its chin pressed into the chest of the first, the membranes being already ruptured. The fronto-mental diameter was in the transverse, with the frontal region lying to the right side. The pains were strong, and after rupture of the sac of the first child descent and forward rotation of the chin occurred, and a living child, weighing $5\frac{1}{4}$ lbs., escaped. The first child then came away, followed by the common placenta, one portion of which was healthy, but the part which supplied the first child was atrophied, thin, and dark in colour, containing fatty nodules. The cord of this child was shrunken, and the fœtus macerated. Puerperium was normal.

MYOMA UTERI.

There were 7 patients during the year with this complication present, but in none of them did it offer any considerable obstacle to confinement or trouble during convalescence, and in several cases a considerable diminution in the size of the tumour took place before their discharge from hospital.

One (E. E.) is recorded fully under "Induction of Labour," Case V. One (M. C.), aged twenty-nine, 2-para, who had previously aborted, was admitted with a history of 4 months' pregnancy. An ovum of about the size of 7 weeks was discharged some hours after admission, but though the sac was complete there was no trace of a fœtus in it. There was a

very hard nodule, as large as a walnut, on the anterior wall of the uterus, which was lifted out of the pelvis by a hard tumour lying in Douglas' space, so that the Bozeman passed nearly to the umbilicus.

A. R., aged twenty-four, 1-para, delivered of a full-term child, had a freely movable myoma on the anterior fundal wall the size and shape of a full-time child's foot.

M. O'C., aged thirty-five, 1-para, with some contraction at the outlet in the transverse, who was delivered by forceps (occipito-posterior presentation), had a myoma as large as a fœtal head bulging into the uterine cavity and situated on the lower part of the lateral wall. After labour this almost completely filled the pelvis, and was easily explored with a Bozeman. There was some temperature during the puerperium, and the uterine cavity was found to be altogether to the right side of the tumour.

Two cases had multiple myomata. None of them had any post-partum hæmorrhage.

INDUCTION OF ABORTION.

The 5 cases under this heading were all treated on account of hæmorrhages continuing for many days (with in one case a foul discharge). The period of pregnancy varied from three to five months. In every case the cervix was dilated by means of sea-tangle tents, and when sufficient dilatation had occurred the uterus was emptied. In 4 cases the fœtus was removed by means of ovum forceps and the placenta with the finger and Rheinstädter curette. In 2 of them the placenta lay over the os internum, and, as Winckel suggests, this condition probably was the cause of the abortion.

The last case is as follows:—

R. C., aged thirty-four, 13-para. History of four months' pregnancy, with hæmorrhage during the last four weeks, intermittent at first, but constant during the past ten days. The uterus extended as high as the umbilicus, the os externum patulous, but os internum closed. She was very anæmic, and the pulse somewhat feeble. Four seatangle tents were inserted, and the vagina plugged with iodoform gauze and boiled wool. Twenty-four hours later plugs and tents were removed, and the os admitted two fingers. The placenta was easily felt, and the membranes were

unruptured, with the fœtal head over the os. Twelve hours later the os internum was tightly closed. A hot vaginal douche was given, and the vagina plugged. Fourteen hours later the os was still closed, and two tents were inserted with difficulty, and removed in 24 hours. As there was some tenderness in the vagina, the patient from this time was given only hot vaginal douches. She had occasional pains, which passed off, and it was not until five days after the last tents had been removed that she expelled the contents of the uterus—a five months living fœtus, and about three pints of thick blood which resembled treacle, and had evidently been extravasated for a long period. The placental tissue covered nearly the whole circumference of the ovum, and at the upper pole was detached from the uterus. The puerperium was uneventful.

TABLE No. VII.—*Application of Forceps.*

Indications		Dead Children	Remarks
Delay in 2nd stage, with danger to mother	40	5	1 in case of physometra, *q.v.*; 2 dead some days, knot on cord; 1 impacted shoulders after great difficulty in delivery of head, traction one hour
Threatened death of fœtus	9		
Eclampsia - -	1		
Threatened rupture of uterus	2		
Threatened eclampsia -	3	—	In each case there was marked œdema of the limbs, vulva, and lower abdomen, scanty and highly albuminous urine
Myoma and pelvic contraction	5	2	1 of these occipito-posterior
Prolapse of cord -	4	2	
Accidental hæmorrhage	2	1	Macerated fœtus, maternal death, *q.v.*
Total, - -	66	10	

SUB-TABLE A.—*Showing Number of Pregnancy.*

I.-para. -	52	VII.-para. -	1
II.-para. -	5	IX.-para. -	1
III.-para. -	3	X.-para. -	1
IV.-para. -	1	XIV.-para. -	1
V.-para. -	1		
		Total -	66

SUB-TABLE B.—*Showing Ages of Primiparæ.*

17–25 - -	26
26–30 - -	17
31–35 - -	5
36–45 - -	4

The percentage application of forceps was 1·10 in extern and 4·15 in intern maternity. This discrepancy is accounted for, as on previous years, by the large number of primiparæ who come into hospital for confinement, as will be seen by glancing at Table No. IV.

Four of the cases had persistent occipito-posterior presentation, but were delivered with little difficulty. They were primiparæ.

Three of the patients had marked œdema of lower limbs and abdomen, with highly albuminous urine, which was very scanty. After delivery the albumen and œdema gradually disappeared.

In one case there was very considerable difficulty in delivering the head, and the shoulders becoming impacted gave further trouble. The child was born dead, and weighed 9¼ lbs.

In three cases the child's head bore marks of considerable pressure from the pelvic bones. In one the delay was caused by an exostosis behind the symphysis. The marks of the promontory and symphysis in another persisted on the cranial bones for some days after birth.

Nine of these 66 cases are recorded in the table of morbidity; the remainder had normal puerperium.

INDUCTION OF LABOUR.

The following are the five cases of this operation:—

CASE I.—K. M'E., aged thirty-eight, 5-para, December 24th, 1898. The pelvic measurements obtained by Skutsch's pelvimeter were at the brim, antero-posterior, 9·25 cm.; transverse, 14 cm. Her children had all been dead born—the first and third being breech presentations, the second a face, and the last premature. From her menstrual history she was three weeks short of full time. The head was above the brim, the cervix soft, os admitting two fingers, and membranes presenting. The cervix was much torn from her

previous labours. Two gum elastic bougies were passed into the uterus, and the vagina loosely packed with boiled wool, and a binder applied. Next day, the os being half dilated and the head engaging at the brim, the bougies were removed, but as pains were feeble four fresh bougies were introduced. The same evening a quantity of clear fluid escaped, and next day the os was nearly fully dilated and the brow presenting. This was easily rectified bimanually, the bougies removed, and the bag of waters, which was still intact, punctured, a tight binder being at the same time applied. Next day, pains having continued at long intervals, the os was fully dilated, and the head was not yet fixed. Patient was left some hours, and, as no advance took place, combined version was performed, and a living child weighing 8¾lbs. delivered. Puerperium was normal.

Case II.—L. L., fully described under "Hyperemesis."

Case III.—M. D., aged twenty-nine, 3-para, May 13th, 1899. Pelvic measurements—c.v. 9·75 cm. ; transverse 10·5 cm. at brim ; transverse at outlet 5·25 cm. The right pubic ramus ran nearly straight downwards, and three finger-points were passed with difficulty between the ischial tuberosities. On May 15th three bougies were passed and removed next day, the os being the size of a two-shilling piece; the vagina was plugged with boiled wool. On the 17th some fluid escaped, but pains ceased, and on the 20th the vagina was again plugged. Next day, with os the size of a shilling and membranes unruptured, four bougies were passed, the vagina was plugged, and quin. sulph., gr. v., administered with good result. The bougies were removed on the 22nd, os half dilated, and at 4 a.m. the following day fœtus 3¾lbs. born alive, as occipito-posterior.

Case IV.—M. K., aged thirty-six, 14-para, June 2nd. Her first seven pregnancies were terminated by evisceration or instrumentally. She has now four living children, labour having been induced in the Rotunda five times, as follows :—1887, 1889 (child dead, she was informed that she was too long in coming from the country; in 1891, she had an abortion at home), 1893, 1895, 1897.

Pelvic measurements—conj-vera 6·1 cm. ; transverse 12 cm. Last menstruation, October 1st, 1898. Head was above the brim, cervix widely lacerated, os admits two fingers, and membranes intact. On June 4th two bougies were introduced, and next day, after a hot vaginal douche, three more were passed in close to the two already *in utero*, and the vagina was plugged. On June 6th,

os nearly dilated, membranes unruptured and head engaging; bougies were removed and two more introduced. Quin. sulph., gr. v., were given twice, at intervals of two hours, with good result. At 4 a.m. the following day the pains were good, the membranes were ruptured artificially and the bougies removed, the head being fixed at the brim. There was some œdema of the vulva. This increased gradually, and at 10 a.m. the patient, though her pulse was 84, and fœtal heart 130, was slightly incoherent. Forceps were applied with the head at the brim. On making traction the head came slowly down, and suddenly slipped over the very prominent promontory, the rest of delivery being easy, and rotation occurring as the descent took place. The child weighed 6lbs. Puerperium was normal.

Case V.—E. E., aged thirty-five, 8-para. Her seven previous labours had been terminated by embryulcia or craniotomy. Pelvic measurement gave conj-vera, 6·4 cm.; transverse 10·5 cm. She, as the last patient, came from Co. Kerry, and was $7\frac{1}{2}$ months pregnant. The cervix was lacerated in all directions, and the os internum admitted the finger-tip. On October 9th two bougies were introduced, and the vagina plugged with boiled wool. Twenty-four hours later, on removing the plugs, the cervix was soft, and admitted three fingers, and there was considerable softening of the vagina. The bougies were left in, and three more were inserted, with some more plugs. The following afternoon the patient was having pains, and, as the os was more than half dilated, and there was some moulding of the head, with membranes still unruptured, the bougies were removed. After this the pains continued strong and fairly frequent, and the fœtus, weighing $3\frac{1}{4}$ lbs., was expelled suddenly alive. There was a fibroid tumour, as large as a pigeon's egg, on the fundus. She made an excellent recovery.

MANUAL REMOVAL OF PLACENTA.

Morbid adhesion of the placenta was recorded on twenty occasions. In two of these there was a morbidity temperature, one being due to puerperal ulcer. Nine were in primiparæ.

PORRO'S OPERATION.

Case IV.—This patient was sent in from the Extern Maternity. She had been in labour from the preceding evening, and, though a primipara, the head was above the brim of the pelvis. Her pulse was 128 and temperature 97·8° F. In making a vaginal examination it was found impossible to pass two fingers between the ischial

tuberosities. The symphysis was markedly rostrate. The antero-posterior diameter was 9 cm., the membranes unruptured, and the os the size of a five-shilling piece. The measurement between the anterior superior spines of the ilium gave 25·5 cm., and the iliac crests 26·5 cm. She was otherwise deformed, was of small stature, had irregular features, and had a cleft palate. The apex of the right lung had cavities in it, and coarse crepitations were easily detected over the same side. As the pains were feeble, and as it was late at night, she was given half a grain of morphia hypodermically, and the operating theatre prepared. She slept during the rest of the night, and at 7 30 a.m., after some pains, the membranes ruptured, allowing some liquor amnii to escape. At 9 a.m. the abdomen was opened and Porro's operation performed, and a living child, weighing $7\frac{1}{2}$ lbs., extracted. The patient was doing well until the third day, when the pulse became gradually faster, rising to 148. She became maniacal, and then unconscious, with brown, dry tongue, and nystagmus, and died at 8 a.m. on the fourth day.

Post-mortem showed granular contracted kidneys, flabby heart, vomica in right lung the size of a walnut, and pleura everywhere adherent. The brain was healthy. Some fluid was found in the peritoneal cavity, but no macroscopic evidence of peritonitis, and the wound had united well. Cultures showed *Staphylococcus albus* to be present.

PHYSOMETRA AND EMBOLISM.

Patient was an exceedingly stout primipara of forty-three, and came in from the country, where she had been in labour for a fortnight, attended by a "nurse." She looked extremely ill—pallor of face and lividity of lips; the pulse was 140 and scarcely perceptible. Her body and limbs were indescribably dirty. The abdomen was enormously distended, and the fœtus could not be palpated. There was a history of amenorrhœa for three years. On separating the labia the fœtal head was seen pulpy and greenish in colour, and the cranial bones soft and overlapping. Pains were absent. Greenish, fœtid fluid and gas escaped from the vagina with a considerable noise, and again when the forceps were applied. The child, weighing $10\frac{1}{4}$ lbs., was delivered with difficulty. As it escaped a large quantity of gas passed from the uterus, and some very foul, green fluid. The placenta required manual removal, and the uterus was found distended to

the lower surface of the liver, but contracted fairly under a hot douche and massage. The patient became more cyanosed, with difficulty and pain on respiration; complained of a weight on the chest. Ether, digitalis and strychnin were given hypodermically, and the foot of the bed raised. She improved for a time, but a second attack came on in two hours, and she died in it.

Post-mortem examination showed the uterus to be flabby, and the interior of the uterine wall, except over the placental area, covered with a greenish, soft and excessively fœtid coating. The lungs were œdematous, the heart flabby, and the right auricle contained an *ante-mortem* clot the size of a small oyster; a pale clot about 2½ inches long lay just inside the pulmonary valve, and extended along the artery, giving a cast of the valves, and a similar condition existed in the aorta, arising just within the left ventricle. The left heart was empty.

Case II.—Admitted at 5 a.m. in good health, with fair labour pains, which remained so until 8 20 a.m., when she had a mug of milk and eat some bread and butter. She had then good pains, and there was some pressure on the perineum. She suddenly became cyanosed and lost consciousness, and the breathing became stertorous. The pulse was imperceptible at the wrist, and an absence of apex beat. Pupils widely dilated and insensible to light. The hand and head of the fœtus were presenting, and as the head receded version was at once performed, but the child could not be resuscitated. When the hand was introduced some blood escaped from the uterus, pointing to partial detachment of the placenta. *Post-mortem* examination showed the subdural space to contain some blood. Right heart dilated, and four fingers could be passed through the auriculo-ventricular valve; left heart hypertrophied; other organs somewhat congested but otherwise normal. Uterus firmly contracted and its walls thick.

VERSION.

As will be seen, there were 14 cases in which version was performed. Three of these were for placenta prævia, *q.v.* Two were done in cases of pelvic contraction, and one in hyperemesis after labour had been induced. Two in face and brow presentations respectively, four in transverse or shoulder presentations; one in a case of death from embolism

was done without avail to save the child, and in the last there was prolapse of the cord in a case of some pelvic contraction. All these will be found recorded under their separate headings.

BREECH PRESENTATION.

Of the 78 children presenting by the breech 36 were born at full term, and of these 31 were delivered alive. Of this number 19 were delivered by natural efforts entirely, or assisted simply by pressure on the fundus. The remainder required assistance. One was a case of impacted breech, which will be dealt with elsewhere. One of these children, which required to be Schultzed, died on the second day, after vomiting blood. Amongst the 5 dead children 1 was macerated, 2 were deformed, 1 being hydrocephalic, and with the fifth there was hydramnios, one and a half gallons of liquor amnii escaping when the membranes were artificially ruptured. In another case, the breech failing to engage, a foot was brought down, and delivery left to nature. There was slight transverse narrowing at the brim. In all these, except the macerated fœtus, the arms and head were extended.

Twenty children were prematurely born, and of these 15 (all under $7\frac{1}{2}$ months) were stillborn, 2 being macerated. The remaining 5 (all above $7\frac{1}{2}$ months) were born alive, 2 of them requiring active interference.

Twenty-two occurred in 17 twin pregnancies. Thirteen were at or near full term, all of which were alive, and in only 2 of them was active interference required. The remainder (6) in 4 cases were between $6\frac{1}{2}$ and 8 months' pregnancies, and all but one (which was macerated) were born alive.

(To be continued.)

"BOLLETTINO BIBLIOGRAFICO DELLE PUBBLICAZIONI MEDICHE ITALIANE."

We have received the first number of the above journal. It is a large octavo journal of 160 odd pages. In arrangement and classification it is similar to that of the "Index Medicus." As an addition to a library it would be very useful, though it deals only with Italian medical literature.

PART II.

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

The Universal Illusion of Free Will and Criminal Responsibility. By A. Hamon. London: The University Press, Watford. 1899. Large 8vo. Pp. 138.

The title of this book has about it a smack of the charlatan. The author reveals his notions of method in the opening sentences of the work. He expresses his admiration for the audacity of Lombroso, whose earliest pronouncements clashed with preconceived ideas and thereby attracted general attention. To attract attention is no doubt the chief end of writing, and our author can claim many distinguished precedents for telling us on page 2 that the present essay is merely an introduction to the complete treatise on criminology which he is preparing, and again for quoting at considerable length an earlier work of his own, though an over-scrupulous person might call the statement a pilot balloon puff and the quotation a puff retrospective. But we hardly think that the title of the book is a judicious instance of compelling attention. It would, perhaps, be hypercritical to say that the word "illusion" is not used in its ordinary English sense, but it is fair comment to note that "illusion," being used for "delusion," the phrase "universal illusion" is mere nonsense—a belief which is universal cannot be a delusion. Supposing, however, that we waive exactitude of phraseology and metaphysical correctness, there is not only a certain rudeness in the announcement by an author that all his readers are deluded, but there is a quite rustic defiance of logic in commencing an argument by trumping up an epithet that begs the whole question at issue. The political platform and the street are the places for question-begging epithets—they are but lathen swords in the intellectual arena.

In this decadent age it is cheering to find that there are sciences which are quite new, even if a few of us suspect that some of them are only pseudo-sciences; and when time grows weary with the vast weight of printed learning which each successive year heaps upon his shoulders, it is as good as a dip into the fountain of youth to read books which calmly ignore all the thoughts of all human thinkers from the beginning of the world. It is only to be regretted that the new scientists have retained one of the most unpleasing frailties of the old, and rend their opponents with a fury worthy of dragons of the prime. Idyllic sweetness is the fittest literary garb for innocence, and the precious lisping of Daphnis and Chloe is the most suitable expression of their elegant simplicity. If only our new scientists would imitate the sweetness of the golden age! But ignorance which is arrogant, stupidity which vaunteth itself, want of sympathy which is puffed up, molishness which claims gerfalcon vision—none of these are valuable, or pretty, or precious, or indeed long endurable, though, hitting the fashion of the moment, they may be announced as "epoch-making."

And so we have come to an end of free will and free will is to be classified, with the belief in witchcraft, as one of the proofs of statutory insanity. We shall presently see a lunacy certificate citing as a sign of insanity—"He believes that his will is free." "Hech, sirs," quotes the Scotch bookseller in "Alton Locke," "the de'il is dead, but—

> "'. . . When the spring appeared again,
> And flowers began to blaw,
> John Barleycorn came up once more
> And sore amazed them a'.'"

The question of free will and its relation to the immutability of the divine substance, and, again, its bearings on human conduct, have engaged the attention of thinking men from the earliest times of which we have any record; nay, it seems likely that the man who was contemporary with the cave bear thought about such things, and that a dim wonder there anent filled the poor undeveloped skull of the Neanderthaler. Certainly excellent remarks are to be found on the subject in the book of Job, admittedly an

early work, and keen reflections in Ecclesiastes. Almost every moralist, philosopher, or poet who has written since Solomon has had something to say on the subject, which lies very near the kernel, if it is not the very kernel, of the *qualvol uralte Räthsel des Lebens.* Even in hell the puzzle had not lost its interest for the fallen angels of Milton, who

> ". . . . . Reason'd high
> Of Providence, Foreknowledge, Will, and Fate,
> Fixt Fate, Free Will, Foreknowledge absolute,
> And found no end, in wand'ring mazes lost."

But now *nous avons changé tout cela*—the riddle is read, the maze is threaded, the end is found. Free will is annihilated by a mandate resembling that famous dictum of Betsy Prig which destroyed Mrs. Harris—"I don't believe there aint no sech a person."

We are told—"The observation of natural phenomena has led to the discovery that matter, force, and life subsist without being created and without being destroyed;" and a few lines further on—"Outside matter force cannot be conceived;" again—"The conservation of matter is a principle which results from the observation of all phenomena." Thus we have two criteria of truth simultaneously set up—one that of observation, another that of conceivability. If the author had taken the trouble to think for a moment he would hardly have written the first sentence quoted. The observation of natural phenomena does not lead to the discovery that life subsists without being created and without being destroyed. "Being created" used antithetically to "being destroyed" must mean "come into being." Now, whatever reasoning on the observation of natural phenomena may teach us to the conservation of energy or the indestructibility of matter, it cannot tell us that life has not come into being. On the other hand, if we accept the current astronomical and geological views, there seem very strong reasons to believe that life did not always exist on this planet, therefore must have come into existence (been created) at some point of time. If we imagine life to have ever existed in our moon it must have been destroyed long ago, and in the

myriad of worlds which revolve in space it must be that many have not reached the stage in which life is possible and many have long passed it. So much for observation. But, outside matter, force cannot be conceived. If this test be accepted our author should remember that the existence of anything without a beginning or an end is entirely inconceivable, and so his whole philosophy falls to pieces at once. Nay, nobody has ever managed to conceive the absence of free will. This is just the crux. It ought to be conceivable, but it is not. "The hypothesis of free will contradicts the two great principles of causality and of conservation of matter, principles which are valid for all phenomena throughout the universe. There is no reason at all why we should not find these same principles in human phenomena. Therefore the hypothesis of free volition is useless and absurd." True, there is no reason at all from an abstract point why toads should not be born with precious jewels in their heads, but as a matter of fact they are not. The conception which M. Hamon seems to have of reasoning is that if your argument brings you to an *ad absurdum* that is only the more cause for your adhering to your argument. So, as free will is felt to be an obstacle, it is simply labelled delusion, and there is an end of it. All this shows a strange misconception of the methods of science. It may be that there is much that belongs, as Herbert Spencer tells us, to the unknowable; but if, on the contrary supposition, everything can be explained, then mind, free will, nay, delusion itself, need an explanation. A hypothesis which is to explain everything must take everything into account. Indeed, from another aspect M. Hamon is only too comprehensive. "Man is the resultant of the time and place where he lives. . . . His ego is influenced and modified by all the environment in which he lives. Heredity or interior environment has determined his character and temperament. Cosmic, individual and social environment act upon his character. . . . As the product of these environments the human being cannot be free. . . . Heat, cold, damp, dryness, the electric and luminous condition of the atmosphere, climate, the altitude, geology, orography,

the cultivation of the land, vegetation, all these factors, which constitute the cosmic environment, modify our being and consequently our will. . . . The habits, the customs of society where the individual lives, his social condition, his profession, food, clothing, habitation, hygiene, and that of those surrounding him, epidemics and endemics, the instruction and education of the individual and of his fellow-citizens, the institutions and laws, &c., are equally factors of which his will is the result." This reminds us of the Hunting of the Snark—

> "They sought it with anchors,
> They sought it with care,
> They sought it with files and soap,
> They threatened its life with a railway share,
> They pursued it with forks and hope."

The nonsense verses of poor Carroll are not more incoherent than the "scientific" rag-bag of M. Hamon. There is really neither skill nor sense in heaping up a number of things that have no common denominator. Supposing, however, that we could admit justice and sense for our author's contention we are still no further forward. If we are to know nothing of human will and human motive till we have completed our study of geology and conchology (why not conchology?—without conchology, little limestone; without limestone where would our cosmic environment be?) or till we are posted in geography and orography, and know all about heat, cold, damp, dryness, the customs of society, law, education, and institutions, and a dozen or so other subjects and ten dozen equally pertinent, what human life will suffice in its duration for our very start? Now-a-days we over-specialise, it is said. It may be that the study of criminology in connection with will is the natural corrective for this tendency, since there seems here to be needed universality of knowledge quite unattainable. We desire to know something, to gather a few of the pebbles on the shore of Newton's sea. We are told that nothing less than omniscience will do, and that our poor entrails must take in the whole ocean.

But if free will is a delusion, and we are merely "automatums" (to use M. Hamon's singular word),

puppets, the wires that move which are so complicated it is impossible to conjecture how they work—if all this is a postulate of modern science, what has it got to do with criminology and responsibility? Grant that the criminal is an "automatum," so are we all. Heat, cold, damp, geology and orography, and "internal environment"—whether as heredity or as liver—affect us all as well as the criminal. Are laws and institutions then to come to an end, since nobody is responsible and everybody is merely the result of innumerable antecedent and concurrent activities? Or are laws and institutions merely to exist for the purpose of forming part of the "external environment" of the criminal? "The suppression of penality would lead, in" our "opinion, to the over-production of crime. This it is which frightens" us, "and then the man of science is effaced by the citizen, the bourgeois, the socially-privileged individual." But the criminal "must be punished, he has to be chastised to satisfy society, because repression is legitimate." Well yes, and may it long be so! We are, we admit, bourgeois. Owing to a combination of causes—heat, cold, electricity, &c.—which we are powerless to resist, we are not rich enough to be globe-trotters, fleet enough of limb to be mackerel or swallows, or volatile enough to be vagrants. We have houses over our heads, and we like to live comfortably in them. We have no desire to submit to burglarious entry or transfer of property by any resultant of external and internal environment and cosmic influences whatever, be such resultant called the north-east wind or the equally irresponsible Mr. William Sykes.

If our readers say we have dwelt too long on this nonsense, we reply that this is the kind of thing with which we are presented as the basis of the new science of criminal anthropology, and therefore it is perhaps worth while to dwell on it longer than its intrinsic merit seems to deserve. To M. Hamon we owe no apology, nor do we offer any apology for him. Like him, we are mere results of heat, cold, damp, electric conditions of the atmosphere, &c.

The translation is bad and the printing careless. Garnier says truly that many of the insane are conscious of their

delusions, but he is quoted as stating that many fools are conscious of their delirium, which is, alas! untrue, or there would be less necessity for that harmless drudge the reviewer. The point of many passages is spoiled by the ridiculous notion that "pretend" translates "*pretendre*," and a jeer at Kant falls slightly flat when it appears thus—"This illustrious meta-physician imagined a liberty existing in the world of nonmena, and he believed by this logomachy." We can see what "nonmena" was intended for, but what are "faultisms" mentioned at page 43? As on a recent occasion, we have to regret that French does not seem to find a place in the curriculum of the Watford University.

Mental Nursing. By WILLIAM HARDING, M.D. (Burdett Series of Popular Text-books on Nursing: No. 9). London: The Scientific Press, Ltd. 1899. 12mo. Pp. 91.

THIS little book (one of the useful "Burdett Series of Nursing Text-books") is an abridgement, with revisions and some additions, of the larger work which the same author published some years ago.

Within a comparatively short period, a number of excellent books on mental nursing have appeared. The first in point of time was the "Hand-book for Attendants on the Insane," originally produced by Drs. Campbell Clarke, MacIver Campbell, Turnbull, and Urquhart. This work was taken up by the Medico-Psychological Association of Great Britain and Ireland, who appointed a committee of their members, including the original authors, to prepare succeeding editions. A fourth edition appeared in 1899. It constitutes the official text-book for the examinations for certificate in mental nursing held by the Association.

The next to appear was Dr. Harding's earlier work (Mental Nursing: Lectures for Asylum Attendants).

Dr. Mercier has brought out a small book called "The Attendant's Hand-book," somewhat narrower in scope than either of the above-mentioned, but showing that author's usual originality and vigour.

In America Charles K. Mills, the well-known Philadelphian Alienist, published several years ago a work on "The Nursing and Care of the Nervous and the Insane." It dwells too much on electrical instruments and such like and too little on nursing.

In Germany several pamphlets have appeared on this subject, some of considerable merit. Among these are Schaefer's "*Leitfaden zum Unterricht der Wärter und Wärterinnen an öffentlichen Irrenanstalten;*" Scholz's "*Leitfaden für Irrenpfleger;*" Tippel's "*Leitfaden zum Unterricht in der Behandlung und Pflege der Geisteskranken;*" Schlöss' "*Leitfaden zum Unterricht für das Pflege Personal an öffentlichen Irrenanstalten;*" and Wildermuth's "*Ueber die Aufgaben des Pflegerpersonals bei Epileptischen.*"

At least two journals exist for asylum attendants—"The Asylum News," edited by Dr. Shuttleworth, and "Die Irrenpflege," edited by Dr. Konrad Alt. The former, published weekly, though its name suggests gossip, is a little paper having much the same scope as the other and better-known nursing journals. The latter describes itself with justice, we think, as a "monthly paper for the purpose of elevating, teaching, and entertaining attendants on the insane." Both of these journals contain from time to time excellent articles, showing that the subscribers who support them are fully alive to the modern requirements of first-class nursing in their special department.

To return to Dr. Harding's last work, from which we have too long digressed, we can warmly commend No. 9 of the Burdett series. It is extremely compact, and gives in an exceedingly small space the essentials of practical nursing as applied to the insane.

Here and there we disagree with the author's opinions. For example, he describes the forcible feeding of a patient as being conducted while the patient is lying on a mattress. It is easier and safer to feed him while he sits in a chair. Again, the following sentence is hardly correct:—"A patient may declare that he can see a ghost, or hear one speaking to him; that is an hallucination." Here we should substitute "believe that he sees" for "declare that he can

see." To say that "an hallucination is a false impression (concerning something which has no existence) received through one of the special senses," is neither elegant nor correct. But errors of fact are few, and expression is generally both terse and clear.

We are pleased, furthermore, to see that Dr. Harding has achieved some originality on topics on which it is not easy to be fresh. It would, perhaps, be too much to expect him "to be in the right with two or three" Englishmen, who dare to think that the elaborate "official" precautions against suicide which are the fashion under the rule of the English Lunacy Commissioners are not justifiable medically, and do more harm than good; but it is refreshing to read this remonstrance as to the issue of caution cards—"It is unfair to the nurses, that the higher officials should shield themselves from responsibility by giving these notices to more cases than it is really possible for the nurse to supervise." It will, at some future time, be thought to be unfair to the patient, too, to put upon him this sort of brand of Cain. The suicidal patient, the most sensitive and the most suffering of humanity, knows perfectly well that he is in the suicidal ward, that he is under special observation, and that he is expected to attempt self-destruction. The serpent hiss of the perpetual capital S (whether this is writ large "suicidal" or "special") is ever in his ear, and one can only wonder that conditions which would produce an obsession in a sane mind ever permit the poor lunatic to escape from the commission of suicide and to get well. And what is all this for? That somebody, having written big S on a parchment slip, may feel he has done his duty and sleep the sleep of the just.

The Royal University of Ireland. The Calendar for the Year 1900. Dublin: Alex. Thom & Co. 1900. 8vo. Pp. 469.

The Calendar, as usual, contains full information relating to the University, its degrees, professional and arts examinations, and graduates. The changes in the courses and

in the regulations for the year 1901 will be found at pages 195–209, inclusive. Those in relation to medicine refer only to the first examination in medicine and to the Medical Studentship in Physiology and Physiological Chemistry, which will be offered for competition among the Graduates in Medicine of the University in October, 1901. This splendid prize, tenable for two consecutive years, is of the annual value of £200 sterling. Intending candidates must give notice in writing to the Secretaries of the University, and pay the prescribed fee for the examination, not later than March 31 in the year in which they intend to present themselves.

Practice of Medicine: A Manual for Students and Practitioners. By GEORGE E. MALSBURY, M.D.; Assistant to the Chair of Practice, Medical College of Ohio, University of Cincinatti, &c. Illustrated with forty-nine engravings. London: Henry Kimpton. 1900. Pp. 404.

WE have always inclined to the belief that short manuals on the practice of medicine are a mistake, and Dr. Malsbury's work has not led us to alter our opinion. The effort to condense hinders any attempt at literary style or merit, the information is supplied in a scrappy and disjointed manner, and omissions are of necessity frequent. We find no allusion to endocarditis as a complication of scarlet fever, and loss of flesh is not mentioned as a symptom of diabetes.

In the chapter entitled "Infections" we find included such diseases as muscular rheumatism, chronic articular rheumatism, and laryngismus stridulus—an arrangement that we do not remember having met with elsewhere; and we hardly think it wise to devote 22 pages to the discussion of the different worms that infest the body and dismiss in 23 the important subject of genito-urinary disorders.

The author seems to consider a temperature of 103° F. the limit that the human frame can endure with impunity, and, irrespective of the symptoms produced, counsels attempts to reduce the body heat when it exceeds this point. For instance, in the treatment of small-pox we find

"Fever over 103° F. calls for baths, phenacetin, salipyrin, antipyrin"—whether one or all we are left in doubt.

"Perforation" in gastric ulcer "demands absolute rest and abstinence from food and drink, the use of the ice-bag over the stomach, and of opium best in suppositories. Should there be a large quantity of food in the stomach it may be carefully removed with a stomach-tube. Laparotomy and suture have been successful in some cases." Our practice is invariably to have recourse to laparotomy at the earliest possible moment; we have never tried the ice-bag or lavage and are not prepossessed in their favour.

Writing of leukæmia the author divides the subject into—(1) Splenic-myelogenous, in which there is little alteration in the size of the spleen or lymphatic glands; (2) lymphatic, in which the lymphatic glands show enlargement. We always believed that the splenic and myelogenic forms, though sometimes associated, occurred as separate conditions, and we certainly were not prepared for the statement that there is little alteration in the size of the spleen in leukæmia.

With some of the views of the writer on other subjects we are also at variance, but we do not wish to lead the reader to conclude that the book contains no reliable or accurate information. Some of the most recent discoveries in medical science are mentioned in its pages and many diseases are well, if briefly, described.

The volume is nicely bound and well printed on good paper.

Conty's Practical Guides. Pocket Guide to Paris. English and American Edition. Paris: Conty's Guides Office, 12 Rue Auber. 1900. Pp. 336.

The year 1900 promises to be a notable one in the annals of the French capital. The great exhibition will bring multitudes of visitors from all parts of the world to visit its wonders, while the International Medical Congress will possess an unwonted attraction for the members of our own profession both at home and abroad.

To the visitor in a strange city a first-rate guide-book

is indispensable. Conty's Practical Guides are well known and justly appreciated, and the "Pocket Guide to Paris" is one of the best of the series. The English edition, which lies before us, is a marvel of completeness and cheapness combined. It costs half a crown net, and contains the fullest information on all subjects likely to interest the visitor to Paris. It is of convenient size. The translation has been well done, and the printing is clear. An excellent map of Paris is contained in a pocket in the cover of the book, and there are many illustrations scattered through its pages. The frontispiece gives an excellent idea of the splendid Avenue de l'Opera—one of the finest thoroughfares in the world.

The traveller will find in this pocket guide everything that he wants to know during an eight-days' or a fifteen-days' visit to Paris and its environs. For the latter, however, a companion guide-book is also published.

The Early Days of the Royall Colledge of Phisitians. Edinburgh. The Extended Oration of the Harveian Society, Edinburgh, delivered at the 114th Festival by the President, Robert Peel Ritchie, M.D. (Edin.), F.R.C.P.E., F.R.S.E. Edinburgh: George P. Johnston. 1899. Pp. 313.

It can hardly be expected that this book will appeal to the majority of the medical profession, but to those who are specially interested in the Royal College of Physicians, Edinburgh, and desire to study an account of its early days we can confidently recommend it.

The author has divided his subject into five parts—

Part 1—The Epoch of William Harvey.
Part 2—A Colledge of Phisitians in Scotland: the four attempts to found it.
Part 3—The Early Days of the Royall Colledge.
Part 4—The First Knights.
Part 5—Afterwards. The progress of the Medical School of Edinburgh University.

He has evidently devoted a great amount of care and trouble in searching out old minutes and documents, many

of which are incorporated in the work. The literary merit of the text, the large and clear print, the numerous illustrations, and the handsome binding render the volume a decided acquisition to any library.

Therapeutic Electricity and Practical Muscle Testing. By W. S. HEDLEY, M.D. London: J. & A. Churchill. 1899.

OF late years a lull has come over the prosecution of electro-therapeutical studies, and no work of first-class importance has appeared since Erb's exhaustive treatise. Yet the votaries of electro-therapeutics have not been idle, and in several of the larger hospitals very completely fitted departments are set aside for electrical work.

For example, in St. Bartholomew's Hospital the premises consist of five rooms—viz., a waiting room, a work-shop, a bath-room, and two rooms for treatment.

X-ray work and Röntgen photographs form new and important developments of medical electricity, but with these branches Dr. Hedley's work does not deal.

The author is in charge of the electro-therapeutical department of the London Hospital, and his chief object is to describe the utilisation of electrical energy for remedial and diagnostic purposes as applied to the human frame.

The first 90 pages are devoted to an exposition of some fundamental topics. For example, electro-motive force; Ohm's law; induction currents; currents of great frequency and high potential; and, lastly, the derivation of currents, for medical purposes, from an electric lighting main, a subject to which Dr. Hedley has paid special attention.

On page 23 there is an instructive diagram designed to illustrate the meaning of the electrical units—viz., Volt, Ohm, Ampère, Coulomb, Joule, and Watt, and it is important that a medical man should strive to grasp the meaning of these terms, whch are now in everyday use.

The scope of medical electricity has been widened, and the most recent addition to its resources consists in the employment of currents of great frequency and high potential, first experimented with by d'Arsonval.

Electro-therapeutics are pretty fully discussed, and the only criticism we have to make upon the teaching of the

book is that it errs on the optimistic side, and claims more for electro-therapeutics than has fairly been made out. For example, far more evidence than the solitary case adduced from a French writer is necessary before we can accept the following statement:—"The treatment of eczema is a triumph of electro-therapeutics. It consists simply in placing the patient on an insulating platform, attached usually to the negative pole, and directing towards the eczematous patches the souffle or breeze from a point attached to the positive pole. The larger the output of the machine the better the result. Treatment ought to be every second day; duration ten minutes" (page 229).

With this single qualification we can cordially recommend Dr. Hedley's work as a useful guide to all who are interested in medical electricity.

The Pathology and Treatment of Sexual Impotence. By Victor G. Vecki, M.D. From the Author's second German edition. Revised and re-written. London: Rebman, Limited. Philadelphia, U.S.A.: W. B. Saunders. 1899. 8vo. Pp. 291.

This handsome small octavo of 291 pages is, like all the volumes issued by this firm, got up in a style which does the highest credit to the publishers' taste and skill. The author deals with this delicate and important subject in the tone of a master and an enthusiast; and his thoughts are admirably presented by his English translators.

Dr. Vecki begins with the beginning. He gives a sketch—rather superficial indeed, but perhaps all the better for it—of the sexual organs; and then proceeds to discuss their physiology in a more interesting way. In the subsequent pages of the work, he proceeds to discuss the various forms of impotence—their causes, phenomena, &c., being far too numerous for the reviewer to criticise in detail. Many interesting clinical cases are cited, and dealt with in the out-spoken method which so eminently characterises the sexual literature of the present day.

The pages which deal with the subject of treatment—the all-important one, from the patient's point of view—are characterised by thorough knowledge and reliable judg-

ment. It need hardly be said that very numerous, and sometimes, very, *very* curious remedies have been employed in the treatment of impotence. Most of them are to be found here. A list of "aphrodisiac articles of food" is given, from Roubaud—"salt, zedoary, saffron, mustard, cinnamon, sage, rape plants—as carrots, turnips, &c.—marjoram, nutmeg, cardamomum, mustard plant, arrowroot, laurel, leek, ginger, garlic, onions, cloves, peppers, skirret, or sugar root, eryngo, angelica, parsnips, celery, fennel, vanilla, pork, game, oysters, fish, &c." We were surprised not to find the potato mentioned in this list, to the use of which the phenomenal gallantry of the Irish race has often been attributed.

Regarding nocturnal pollutions we are told that:—"Kisch states that partial bathing is recommended against pollution in youthful individuals. For the bathing of the occiput the patient is in a horizontal position, and has the back of his head in a specially shaped basin filled with cold water. Stimulating applications for the upper arms, by means of some towel-like material soaked in cold water, and with a dry cover, are likewise of good effect now and then. Finally, I wish to mention for occasional application Winternitz's psychrophor, cold clysters, and Atzperg's cooling probe for the rectum."

We will only say, in concluding this notice, that the volume before us deals very ably with one of the most important subjects connected with our social and our pathological existence; and that, accordingly, its contents should be mastered by every conscientious medical practitioner.

The Hygiene of Transmissible Diseases: their Causation, Modes of Dissemination, and Methods of Prevention, By A. C. ABBOTT, M.D.; Professor of Hygiene and Bacteriology, and Director of the Laboratory of Hygiene, University of Pennsylvania. Illustrated. London: Rebman, Limited. Philadelphia, U.S.A.: W. B. Saunders. 1899. 8vo. Pp. 311.

THIS æsthetically-produced octavo volume of 311 pages does equal credit to author and publishers. The paper and type leave nothing to be desired; the binding is tastefully

designed and well executed; the illustrations (44 in number) are well selected and well depicted, and admirably illustrative of the text in which they are placed.

In the preface the author informs us that "It is not the purpose of this work to present the subject of hygiene in the comprehensive sense ordinarily implied by the word, but rather to deal directly with but a section, certainly not the least important, of the subject—viz., that embracing a knowledge of the preventable specific diseases. Incidentally, as occasion may require, there are discussed these numerous and various factors that have not only a direct bearing upon the incidence and suppression of such diseases, but that have one of general sanitary importance as well."

The plan so sketched by the author has been carried out in a manner which bears indisputable testimony to his mastery of the subject, and of his skill and conscientious care in the selection of his material. The bewildering mass of literature through which the teacher is obliged to tread his way in the preparation of such a volume as that before us can hardly be properly appreciated except by one who has been obliged to pass through the fiery ordeal on his own account.

In concluding his discussion on the now engrossing subject of tuberculosis, Dr. Abbott makes the very sensible observation that "In recommending that the marriage of consumptives should be discouraged, the writer appreciates the almost total impracticability of the suggestion; but it is nevertheless the duty of the physician to discourage such unions whenever the opportunity presents for him to do so."

He is still sceptical about the claims of Lustgarten's bacillus as the *causa causans* of syphilis. After summarising the results of the researches of bacteriologists in this department, and noting that some other observers have "failed to detect the organism after careful search through the most promising materials," he proceeds to observe that "There is therefore considerable room for doubt as to the causal relation of this organism to syphilis." We entirely agree with this conclusion.

The present state of our knowledge with regard to the pathology of *malarial* and *yellow* fevers are admirably summarised in the pages devoted to these subjects; and the por-

tions connected with prophylaxis of the various transmissible diseases are peculiarly well treated in the later chapters. Further critical details we consider absolutely unnecessary: so that we will conclude this short notice of an excellent manual by recommending it most cordially to every practitioner.

A Manual of Surgery for Students and Practitioners. By WILLIAM ROSE, M.B., B.S. Lond., F.R.C.S., Professor of Clinical Surgery in King's College, London, and Senior Surgeon to King's College Hospital, &c.; and ALBERT CARLESS, M.S. Lond., F.R.C.S., Surgeon to King's College Hospital, and Teacher of Operative Surgery in King's College, London, &c. Second edition. University Series. London, Paris, and Madrid: Baillière, Tindall, & Cox. 1899.

THIS very prepossessing octavo of 1190 pages has unquestionably established for itself the position of one of the most important scientific text-books of the period. Printers, bookbinders, and publishers have genially and tastefully conspired with the authors to make the volume as attractive to eye and hand as such a manual can well be expected to appear. And they are already reaping their reward. Such exceptional success carries with it, of course, exceptional responsibilities; and this observation necessarily applies with peculiar emphasis to a text-book of surgery, as the successful preservation of human life and limb, and the successful alleviation of pain and utilisation of all physical comforts, depend upon the knowledge which the practitioner is able to bring to bear on each individual case as it arises in his practice. And for a good many years, at least, in the practice of every surgeon a great part of his knowledge is necessarily derived from books; and hardly any surgeon, even to the end of the most extensive and varied practice, can attain to personal experience of all the varieties of cases which are found described in a well-prepared text-book of the subject.

In proceeding to details, we will note a few points which may be revised in the next edition. On page 399 we are

told that "the body of the scapula is broken as a result of considerable direct violence." This statement will not bear careful criticism, although it has been the common property of surgical text-books, ever since Malgaigne made it classic. The violence, as a matter of fact, is almost always received by the prominently projecting spine, and very unavoidably. The authors themselves tell us in the next sentence that, "as is usually the case, the fracture is transverse just below the spine." These two statements will not be found to amalgamate.

In discussing "separation of the upper epiphysis of the humerus," on page 402, we are told that "the epiphyseal line is not transverse, since the upper end of the shaft is somewhat conical." If such a statement had been made on this side of the channel in the, now happily past, days of anti-Hibernian prejudices it would have, perhaps, been described on the other side as an Irish "*bull*." As a plain anatomical fact, the epiphyseal line *is* transverse—indeed, one of the most transverse lines in human anatomy. The epiphyseal *plane* is *not* transverse, "since the upper end of the shaft is somewhat conical."

"Separation of the lower epiphysis of the humerus" has ever proved a veritable *pons asinorum* to manufacturers of surgical text-books. The fact that the epiphysary cartilage in childhood adds nothing to the prominence of the external condyle, and very little to that of the internal, would appear to be an esoteric scientific item which has hitherto been revealed only to a few ardent votaries of surgical truth. When the portion set apart for the formation of the internal epicondyle becomes detached—as it does about puberty—from the inferior epiphyseal plate, the "epiphysis" is, properly speaking, formed by the latter only. During the remainder of its existence as such, its separation means detachment of an extremely thin lamella of bone from the lower end of the humerus, carrying with it no appreciable portion of the lateral prominence of the external condyle.

On page 420, in discussing impaction in "intracapsular fracture" of the neck of the femur, the authors inform us that when it occurs "the upper end of the shaft (!) is

driven into the loose cancellous tissue of the head." Of course, *shaft* must be a *lapsus* for neck.

In the descriptive enumeration of fractures near the ankle-joint, our authors make no mention of the special type noticed by Mr. Robert Adams, of Dublin, which may be described as a fracture in the situation of Pott's fracture, with displacement of the foot directly backwards. The authors very loosely describe the displacement of the foot in "*Dupuytren's fracture*" as "upwards and backwards." The foot can by no means pass *upwards* till it has first passed sufficiently far outwards to free the upper articular surface of the astragalus from contact with the adjacent surface of the lower end of the tibia. The astragalus, with the attached lower fragment of the fibula, then passes upwards on the outside of the lower end of the shaft of the tibia. The presence of *backward* displacement is not *characteristic* of Dupuytren's fracture. We must add that the nature or mechanism of this lesion could never be guessed from the extremely misleading diagram (Fig. 140) given on page 441.

On page 472 we are gravely told that "displacement of a semilunar cartilage is a condition frequently met with, resulting from sprains and strains of the joint;" and "the displacement itself varies in character; sometimes the coronary ligaments give way, allowing the cartilage to slip outwards from between the bones or inwards into the joint cavity." The first question which started to our mind on reading the above words was, "Did the writer of this paragraph ever dissect a knee-joint in the whole course of his professional life?" What have the flimsy coronary ligaments to say to such displacements, while it remains a physical impossibility to have the internal cartilage—the one confessedly oftenest implicated—displaced "*outwards*" from between the bones without complete laceration of its cornual attachments, and also pushing before it the internal lateral ligament of the knee-joint—a state of things which would also necessitate the laceration of the latter structure, to the whole breadth of whose deep surface the circumferential aspect of the internal semi-lunar cartilage is firmly adherent?—or "*inwards* into the joint

cavity" without detaching its margin from the adjacent adhering surface of the internal lateral ligament—an occurrence which, in connection with a previously healthy normal joint, has, we believe, never been authenticated; and which everyone who happens to know the structure of the knee-joint must allow to be impossible without the application of enormous violence, and the infliction of such a degree of simultaneous mischief as would render utterly impossible the immediate rectification of the condition by manipulation, which is the first item in the "treatment" recommended by our authors?

We began our criticism with the more elementary and common-place subjects of *fractures* and *dislocations*. We believe that these subjects are usually so regarded. We will not proceed further on the present occasion; the reviewer's space is necessarily limited. The slips we have dealt with are a few of the most glaring in their respective departments. We hope to find them corrected in the next edition, which the great popularity of this manual makes us foresee in the very near future. We will then direct our attention to some other sections of the work. In the case of a text-book like that before us, which has taken so prominent a stand in the education of the rising generation of surgical students, we feel that a very great responsibility devolves upon reviewers as well as authors. We have, accordingly, nailed our colours to the mast; and we feel confident that the authors of the very handsome volume before us will cordially join hands with us in the performance of a most important professional public duty.

THE CENTRAL BRITISH RED CROSS COMMITTEE.

The Secretary of the Central British Red Cross Committee authorises us to contradict the statement, which has appeared in several papers, to the effect that the Dœcker huts recently erected at Netley were lent by the German Red Cross Society. Through the kindness of the Central Committee of German Red Cross Societies, the Central British Red Cross Committee was able to obtain within a very short time a large number of huts which the manufacturers had been making to the order of the German Central Committee, but the huts have been purchased, not obtained on loan.

PART III.

SPECIAL REPORTS.

REPORT ON PRACTICE OF MEDICINE.

By Henry T. Bewley, M.D. Univ. Dubl.; F.R.C.P.I.; Physician to the Adelaide Hospital; and Lecturer on Forensic Medicine and Hygiene, Trinity College, Dublin.

I. PERIPHERAL NEURITIS CAUSED BY THE ADMINISTRATION OF ARSENIC IN CHOREA.

II. DIAGNOSIS OF PLEURAL EFFUSION BY MEANS OF METALLIC PERCUSSION.

III. ON GALL-STONE CREPITUS.

IV. THE DIAGNOSIS OF ANEURYSM OF THE ARCH OF THE AORTA.

V. THE TREATMENT OF NEPHROLITHIASIS WITH GLYCERINE.

VI. BELLADONNA IN THE BRONCHO-PNEUMONIAS OF CHILDREN.

VII. ANTISEPTIC AND ELIMINATIVE TREATMENT OF TYPHOID FEVER.

VIII. KERNIG'S SIGN IN CEREBRO-SPINAL FEVER.

IX. KLEBS-LOEFFLER BACILLI IN THE AIR OF A DIPHTHERIA WARD.

I. CASES OF PERIPHERAL NEURITIS FOLLOWING THE ADMINISTRATION OF ARSENIC IN CHOREA.

Dr. T. C. Railton believes that arsenic is the best drug for most cases of chorea, as it shortens the attack more effectively than does any other medicine. Caution must, however, be used in its administration, as sometimes bad results follow.

Occasionally he finds children with whom arsenic will not agree at all, and in whom small doses of Fowler's solution quickly cause irritation of the stomach, shown by a foul breath and thickly-coated tongue, with vomiting and perhaps diarrhœa.

Bronzing of the skin, a symptom not uncommon in adults taking arsenic, is not very frequently met with in children, probably because they usually require it for a shorter time than older patients; but he has seen several cases of moderate pigmentation, and well-marked examples have been recorded by Drs. Cheadle, Owen and others.

Symptoms presumably dependent upon implication of the peripheral nerves—such as changes in the texture of the skin, erythematous or vesicular rashes, and, most important of all, atrophic paralysis—are still less common and should perhaps be considered as due to some special susceptibility on the part of the child.

The skin may become roughened so that it feels like sandpaper, or it may peel as though following an attack of scarlet fever. At other times a naturally rough skin becomes as smooth as satin and presents a striking resemblance to the skin sometimes seen in alcoholic neuritis or to the more localised change following traumatic injury to nerves.

Vesicular eruptions may occur in the form of herpes zoster, and cases from this cause have been frequently reported.

The œdema of the eyelids, red eyes and pricking of the conjunctiva, symptoms not very unusual in adults taking arsenic, are as a rule conspicuous by their absence in children.

In four cases peripheral neuritis followed the administration of arsenic. The first case was a girl, aged twelve years; the disease had lasted three weeks before admission to hospital. Ten drops of liquor arsenicalis were given thrice daily for three weeks, by which time the chorea was well; in all 6·3 grains of arsenious acid were taken by the girl. A fortnight afterwards the legs became weak, and in another fortnight there was present a typical picture of peripheral neuritis.

The second case, a girl aged eleven took ten drops of liquor arsenicalis three times a day for four weeks—in all 8·4 grains of As_2O_3.

The third took 8·1 grains in three weeks; and the fourth 8·1 grains in 24 days.

In all these the symptoms of paralysis came on in 1 to 3 weeks after the arsenic was stopped. They all eventually made good recoveries, but convalescence was prolonged.

In many other cases arsenic had been used, sometimes in larger doses than in these four, and in none of them had any serious ill result occurred.

The chief lesson to be learned from these cases is that there is a risk of disastrous results following the treatment of chorea with arsenic, if that remedy is given in doses which amount in the aggregate to as much as six grains of arsenious acid.

"We have seen that these results may give no warning whatever of their approach during the administration of the drug, but make their appearance afterwards, with an interval varying from a week to a fortnight subsequent to its discontinuance. It is thus impossible to tell in any given case whether the treatment is going to be followed by toxic neuritis or not.

"The long period involved in the development of the symptoms, their subsequent decline, and the attendant discomforts, render this accident one to be intensely regretted, although I have not seen any symptom occur during the neuritis which threatened life, the paralysis never extending beyond the limbs. From the foregoing experience I would strongly urge that no aggregate dose amounting to more than four grains of arsenious acid be administered to a child during an attack of chorea."—*Med. Chronicle,* Feb., 1900.

II. THE DIAGNOSIS OF PLEURISY WITH EFFUSION IN CHILDREN BY MEANS OF METALLIC PERCUSSION.

Moussons considers that in metallic percussion we have a valuable addition to the ordinary methods of diagnosis employed in the detection of pleural effusion in children. He calls attention to the perplexing nature of many of the physical signs in such cases, and points out that the sounds elicited by percussion and auscultation do not bear the same interpretation in the child as they do in the adult. He indicates how frequently purulent pleural effusions are confounded with croupous- and broncho-pneumonia, and with tubercular infiltrations, and he maintains that if metallic percussion were made part of the routine procedure in examining children suffering from lung trouble, many of these mistakes might be avoided. Following the lead of

Trousseau, who first demonstrated the value of the coin test in cases of pneumothorax, Pitres, and associated with him his pupil Sieur, conducted an elaborate series of investigations in adult patients, to show that metallic percussion might prove of service in cases other than those of pneumothorax.

The result of their investigations may be briefly stated as follows:—(1) When the chest is healthy, the transmitted note from the coins used in percussion is obscure and smothered, and is absolutely without metallic timbre; (2) whenever effusion is present, whether it be serous, purulent, or sanguineous, in a cavity free from adhesions a perfectly clear metallic sound is transmitted. On the other hand, they were unable to elicit this sound in the different types of pneumonia or in new growths, and the same was true with regard to tubercular deposits, encysted pleurisies, and pericardial effusions. They found that they could not only recognise the presence of an effusion, but were able to indicate the height of the fluid in cases of pleuro-pneumonia, and could further detect the position of the zone of dulness corresponding to the effusion, in cases of pleurisy complicated with false membrane. During the last two years Moussons has submitted all the children coming under his observation suffering from pulmonary or pleural affections, to this test. The percussion ought to be gentler in the child, and the ear not employed in auscultating should be deafened. He found that in the child as in the adult the metallic sound is deadened in traversing the healthy chest, and loses its anvil character. In all croupous and catarrhal pneumonias which he examined the results were practically the same. The transmitted sound was not only impure and without metallic ring, but the perception of the actual stroke of the coins on one another was very feeble and notably duller than on the healthy side, while in some cases it was absolutely imperceptible.

In the majority of cases submitted to examination in which fluid was present in the pleural cavity, metallic percussion gave a very clear and unmistakable sound, as in the adult. In a small number of cases, in which the test was less satisfactory, the sound was much better transmitted than on the healthy side although lacking some of the characteristic pure silvery quality.

The author records the results of his experiments in the cadavers of six young infants and one older child, by injecting their pleural cavities with varying quantities of fluid. In no case was the metallic timbre present before injection, whilst the sign was clear and unmistakable after the injection had been made in all but two of the cases, and in them also a successful test was obtained on injecting a larger quantity of fluid. The paper concludes with the expression of the opinion that this sign, without being absolutely pathognomonic, is of great importance in facilitating the diagnosis in a class of cases which is often beset with great difficulty.—*Rev. mens. d. mal. de l'enf.*, Paris, Janvier, 1899, and *Edinburgh Med. Jour.*, Jan., 1900.

III. ON GALL-STONE CREPITUS AND FRICTION.

Dr. J. M. Anders (Philadelphia) writes that in a good many cases of suspected gall-stones he has been assisted in making a diagnosis by feeling the gall-stones rubbing against one another. His method is as follows:—

"While examining for crepitus the patient should occupy a dorsal decubitus with legs flexed so as to relax the abdominal muscles (rectus abdominis), and then gentle but deep palpation over the gall-bladder area is to be made. If crepitus is not obtained in this manner, the finger-tips of the palpating fingers should be dipped into the abdominal wall just below the fundus of the gall-bladder, and then drawn upward over the organ as though making an attempt to roll the fundus upward and forward. This failing, the patient should be told to inspire deeply, though slowly; this carries the gall-bladder downward and forward, and during its excursion, the examiner, while palpating, should make gentle counter-pressure with the finger-tips. The tactile sense of the palpating fingers may be increased by pressing on their dorsal surfaces with the fingers of the disengaged hand, so as to put the muscles of the examining hand at rest, as suggested by Pollatchek, and as has been recommended in palpating the appendix. When palpation fails, auscultation should be practised. By this means we may distinguish a friction sound, and I am of the firm belief that the sense of hearing is more delicate and acute than that of touch. In one of the cases reported above, in which the gall-bladder

was filled with calculi, combined auscultation and palpation (*auscultatory palpation*) led to the detection of a friction sound after other methods had failed. In attempting the latter mode of examination, the stethoscope should be placed just below the costal arch, so as to afford space for palpating over the fundus of the enlarged gall-bladder with the finger-pulps of the free right hand."

He reports four cases in which this procedure was very useful.—*Internat. Med. Magazine*, Dec., 1899.

IV. THE EARLY DIAGNOSIS OF ANEURYSM OF THE ARCH OF THE AORTA.

In a paper on this subject Dr. Porte (St. Louis) writes:—

"I wish to put on record a method of examination with which I have been experimenting for about three years. Remembering the close proximity of the aorta to the œsophagus, and that the latter is exceedingly elastic and compressible, it occurred to me that a large bougie, with the lower end made very distensible, could be passed down opposite the site of suspected aneurysm, and the impulse conveyed to the distal end of the tube and measured. The procedure is a very simple one. The ordinary œsophageal bougie can be covered at the end with gold-beater's skin, and, after a little spraying of the pharynx with a weak cocaïn solution, it can easily be passed without danger of violence to any thoracic lesion.

"The tube is then distended with water and connectedwith a U-tube, which is also filled with water. A few drops of colouring matter will add to the demonstration of the experiment. If the tube is passed down near the cardiac orifice, the heart-impulse is sufficient to produce some vibration in the tube, especially if there is hypertrophy; but if the tube is placed approximately opposite the aortic arch, very little impulse is noted in the normal case.

"Where there is aneurysmal distension and impulse at this point, it is not difficult to get a more or less distinct vibration, which can be seen and estimated in the bent glass tube. In five out of seven cases under observation during the last three years the impulse could be noted by this method. I need not weary you with the details of the histories, except to say that in three of these cases there was

a doubt at first, even after repeated investigation by the usual methods."—*N. York Med. Jour.*, Dec. 9, 1899.

V. THE TREATMENT OF NEPHROLITHIASIS WITH GLYCERINE.

Dr. Hermann (Carlsbad) has found glycerine useful in the treatment of nephrolithiasis. He has given it in 115 cases. In 60 per cent. of these the glycerine proved to be efficaceous either by removing concretions, or by removing the pains which accompany this disease. The concretions passed were all, except two, composed of uric acid.

As a rule, when the glycerine is administered, the dull boring pain in the back which so often accompanies the disease ceases, the painful sensations along the ureters disappear, and movements of the trunk which had been painful can be made without discomfort.

After taking glycerine, the patients showed the following symptoms:—

Several hours after the remedy had been taken, pain occurred in the kidney-region, and in the case where only one kidney was diseased, this would happen only on the affected side. These pains, which would often assume the character of a kidney-colic, were never very violent, as is shown by the fact that in no case was I obliged to use narcotics. The pains passed along the ureters towards the bladder, and would then, in most cases, cease suddenly. Such pains have been noticed also in cases where there was no evidence of the passing of a calculus. On the other hand, the concretion may pass with the urine within twenty-four hours.

The urine voided after the use of glycerine proved to be free from albumen, sugar and blood; but it contained very much mucus and pus, especially where there was a complication with pyelitis. The urine always contained considerable quantities of glycerine; thus, to quote just one figure, I may mention that five hours after the taking of 120 grammes of glycerine an analysis of the urine showed the presence of 9 per cent. glycerine.

In order to explain the favourable action of glycerine in nephrolithiasis, we must consider first that the glycerine-urine is, physically speaking, very essentially different from the ordinary urine. The finger dipped into it has not

the feeling as if touching a watery liquid, but rather an oily substance; and I fully believe that the passing of concretions is made easier by the lubrication of the urinary passages. I have not been able to convince myself that glycerine has a solvent, chemical action.

The dose of glycerine I used in my cases was chosen in accordance with the weight and the age of the patient. I have kept within the limits of from one to four ounces (by weight). The prescribed remedy was dissolved in an equal amount of water, and always taken at one dose between two meals, and repeated two or three times in an interval of several days. I do not think it rational to give smaller doses several times a day, as this way of administering the remedy would not bring about the desired effect, considering the mode the remedy is expected to act, as explained above. If taken in the doses mentioned (one to four ounces), I have never seen any disagreeable symptoms.—*Med. Chronicle*, January, 1900.

VI. BELLADONNA IN THE BRONCHO-PNEUMONIAS OF CHILDREN.

Dr. D. A. Hodghead recommends this for the following reasons:—(1) In small doses it is mildly narcotic, producing a slightly sedative influence on the nervous system. (2) It is in small doses a heart tonic, raising the arterial tension and increasing the circulation by stimulating the cardiac sympathetic, and in a corresponding manner depressing the pneumogastric, the inhibitory nerve. (3) It is a respiratory stimulant. (4) It produces a dilatation of the superficial capillaries, and in a corresponding manner relieves the congested lungs. It produces an increased secretion of urine and bile. (5) The most important action in this relation is that it diminishes secretion in the bronchial tubes and pulmonary tissues. To be effective it should be given every hour or two, in quite large doses, until the desired results are obtained. Children are not very susceptible to the drug, and infants a few months old will prove no more sensitive to the same dose than children of five and six years. It is more useful when the disease is well developed and the bronchial secretions are superabundant.—*Pediatrics*, 1899, Vol. VIII., p. 214, and *Amer. Jour. of Med. Science*, Dec., 1899.

VII. THE ANTISEPTIC AND ELIMINATIVE TREATMENT OF TYPHOID FEVER.

Dr. T. V. Hubbard, after a plea for a fair trial of such methods of treatment and a statement that most of the opposition comes from those who have had no experience with these methods, goes on to explain his own practice in treating enteric fever. Basing his therapy on the fact that the fever is primarily a specific local infection, he proceeds to treat the infection locally by means of purges and antiseptics. Calomel half a grain, guaiacol carbonate two grains, podophyllin one-twentieth grain, are given in capsule every two hours for one or two days, depending on the condition of the bowels. This is continued until four or five intestinal evacuations have resulted for two successive days. The calomel is then omitted, and half a grain of menthol is added to the other drugs. If the bowels become inactive, as they often do, on discontinuing the calomel, small doses of salts or of Hunyadi water are given in the morning. Depending on the temperature and tympanites, at least two evacuations are required daily. If the temperature remains high or rises after four or five days' treatment, calomel is again given as above for twenty-four hours; it invariably reduces the temperature, and results in general improvement in the patient's condition. The administration of guaiacol, menthol, and podophyllin are continued throughout the disease for their antiseptic properties. *Continuous* medication *early* in the disease is the *sine quâ non* of success. Occasional spongings or ablutions with cold water are advised for the good effect produced on the peripheral circulation, the shock to the general nervous system, and the subjective sensation (?) of the patient; for the fever it is unnecessary; after the first few days, antipyretics are not needed. With this method of treatment digestion is more satisfactory, and more food is recommended than these patients received under the old *régime*. Average duration of the disease in ninety-seven tabulated cases was fourteen and two-fifths days. Stimulants are rarely required; delirium and complications are practically unknown. Where treatment is begun within eight days of the beginning of the disease, and systematically carried out, the temperature almost invariably returns to normal at the

expiration of a week or ten days.—*The Virginia Medical Semi-Monthly*, 1899, Vol. IV., No. 77., and *Amer. Jour. of Med. Sci.*, Nov., 1899.

VIII. KERNIG'S SIGN IN CEREBRO-SPINAL FEVER.

In the course of a paper on the "Etiology and Diagnosis of Cerebro-spinal Fever," read before the West London Medico-Chirurgical Society, June 10, 1899, William Osler (*The Canadian Practitioner and Review*, August, 1899, p. 447) states that of twenty-one cases of the disease observed during the recent epidemic in Baltimore, Kernig's sign was found in all in which it was looked for. "It is an old observation," he remarks, "that in protracted meningitis the patient lies with the thighs flexed upon the abdomen and the legs partly flexed on the thighs. To test for Kernig's sign the patient should be propped up in bed in the sitting position; then, on attempting to extend the leg on the thigh, there is contraction of the flexors, which prevents the full straightening of the leg. On the other hand, in the recumbent posture the leg can be fully extended. Many patients with meningitis cannot sit up, but the test can be equally well applied by flexing the thigh on the abdomen, when, on attempting to extend the leg, if meningitis be present, the limb cannot be fully extended. Fries found the sign in fifty-three out of sixty cases, and Netter in forty-five out of fifty. Its presence is no indication of the intensity of the spinal involvement. Netter's explanation of the phenomenon is as follows:—In consequence of the inflammation of the meninges the roots of the nerves become irritable, and the flexion of the thighs upon the pelvis when the patient is in the sitting posture elongates, and consequently stretches the lumbar and sacral roots, and thus increases their irritability. The attempt to extend the knee is insufficient to provoke a reflex contraction of the flexors while the patient lies on his back with the thighs extended upon the pelvis, but it does so when he assumes a sitting posture."—*Amer. Jour. Med. Sci.*, Jan., 1900.

IX. THE PRESENCE OF THE KLEBS-LOEFFLER BACILLI IN THE AIR OF A DIPHTHERIA WARD.

H. Richardière and L. Tollemer (*Gazette des Maladies*

Infantiles, 1899, No. 10) have made an interesting series of experiments to discover whether bacilli were present in the air of apartments devoted exclusively to the treatment of diphtheria patients before and after disinfection had been practised. These observations were made in the Bretonneau pavilion of the Hôpital Trousseau.

In the first series of experiments the wards had not been disinfected for several weeks. They contained about thirteen diphtheria cases. Two procedures were adopted—in the first the air of the rooms was driven over sterilised bouillon; in the second, Petri dishes containing coagulated beef serum were exposed to the air for varying periods of time. Bacteriological tests were controlled by inoculation of animals. Similar experiments were also made in apartments which had been occupied by diphtheria patients, but had subsequently been disinfected.

The result of these observations showed that virulent diphtheria bacilli were present in the dust floating in the air of the Pavilion Bretonneau, which had not been disinfected for a long time, but that they were absent after disinfection. These experiments, therefore, show the importance of frequent disinfection of wards devoted to contagious cases and the necessity for the precautions of rigid isolation which are carried out in these wards at the present time. They show, also, that it is necessary to employ daily some means of removing, without at the same time stirring up, the dust of such apartments.—*Amer. Jour. of Med. Sci.*, Oct., 1899.

HYSTERECTOMY.

Vaginal hysterectomy with the ovaries left *in situ* is followed by much less nervous and physical disturbance than when the ovaries are removed and the uterus is left, or than when they are all removed at the same time.—J. T. Johnson.

CYSTITIS.

In old people quite a considerable degree of cystitis may exist without giving rise to symptoms. The microscopical examination is in such cases quite indispensable.—*International Journal of Surgery*, May.

PART IV.

MEDICAL MISCELLANY.

Reports, Transactions, and Scientific Intelligence.

Therapeutics in the Eighteenth Century. By Henry W. Spaight, L.R.C.P.I., L.R.C.S.I., Porlock, Somersetshire.

While looking up some medical books lately in a library I met with a quaint volume, entitled "Lectures Publickly Read at London in 1731 by Peter Shaw, Physician, of Scarborough." One of the chief grievances of Dr. Peter Shaw is "the Ill Habit of the Mind," as he calls it, among contemporary physicians which induced them to experiment with new drugs. He says:—"Those versed in the History of Physick observe that Remedies have their run of Fate and Fortune, being highly magnified for a season and afterward thrown aside. Many Medicines celebrated by the Antients—the Elixir Proprietatis of Paracelsus, the Sal Volatile Oleosum of Sylvius, the Aqua Benedicta, or Vinum Emeticum of Rolandus, have been Extravagantly Prized, but are now sunk in the Esteem of Physicians. And thus perhaps our present Opiates, our Salt of Vipers, our Pearls, our Bezoar, our Aurum Fulminans, et cetera, may lose credit hereafter." This latter foreboding has been fulfilled to the letter. One can imagine the blank looks of a candidate at a modern Materia Medica examination if confronted with the question—"State the composition, dose, and therapeutic action of salt of vipers?"

Dr. Peter Shaw goes on to say:—

"This Instability doth not appear owing to the Medicines themselves, but rather to the Inattention, Levity, and Rashness of Men in presently changing one Medicine for Another if the expected result is not soon procured, and using Medicines recommended by Unfair Representers. Thus the lives of Physicians are spent vainly in flying from one Medicine to Another."

"This perverse Temper, or Ill Habit of the Mind, must therefore be cured, or else Physicians will continue to Fluctuate, and not bring Pharmacy to a State of Perfection. The way of rectifying this Ill Habit is, we apprehend, to acquire a Competency of

Sound Medicinal Knowledge by keeping steady to the use of a few Simple Medicines which are easily prepared, no way hazardous, and yet powerful in their effects."

The lecturer's views about emetics, though quaintly expressed, are sound enough, and incidentally give us a striking picture of the strength of the remedies used in his day—

"The Infusion of Ipecacuanha in Wine appears to be the most Safe, Gentle, and Agreeable Emetic hitherto known; whence it may in most cases be properly substituted for the Vinum Benedictum, the Tartarum Emeticum, and all the other Antimonial Emetics. We observe that the common Antimonial Emetics, of which there is a great variety, are virulent, and in some degree Poisonous.

"'Tis true some Practitioners venture to give Arsenic itself, in the quantity of a few grains, as an Emetic. But as we certainly know by Many Fatal Instances that Arsenic is a virulent Poison, it seemeth a kind of Madness to use it as an Emetic when Ipecacuanha is at hand. And the same is to be understood tho' in a less degree of all other Drastic Emetics. And here we do not except Emetic Tartar itself, which, unless prudently diluted with Wine or Cordial Waters, is apt to prove not only Uncertain and Churlish in its Operation but sometimes Virulent and Poisonous. The Solutions of Vitriol, Verdigrease, and various preparations of Copper still continue to be used as Emetics and usually Operate quick; yet we cannot Judge such preparations to be Safe."

INDIAN MEDICAL SERVICE.

THE Military Secretary of the India Office has sent for publication the following list of the candidates for Her Majesty's Indian Medical Service who were successful at the competitive examination held in London on February 2, 1900, and following days:—

	Marks		Marks
1 Graham, J. D.	3,640	10 Oxley, J. C. S.	2,615
2 Sprawson, C. A.	2,936	11 Macnee, H. R.	2,560
3 Cazaly, W. H.	2,928	12 Lapsley, W.	2,524
4 Coppinger, W. V.	2,812	13 Keys, W. D. A.	2,497
5 Browne, P. A.	2,785	14 Chalmers, A.	2,459
6 Spitteler, A.	2,768	15 Good, J.	2,453
7 MacKelvie, M.	2,651	16 Houston, W. M.	2,402
8 Deas, L. J. M.	2,621	17 Young, G. J. G.	2,363
9 Hamilton, W. G.	2,620	18 Godkin, S. R.	2,262

ROYAL ACADEMY OF MEDICINE IN IRELAND.

President—Edward H. Bennett, M.D., F.R.C.S.I.

General Secretary—John B. Story, M.B., F.R.C.S.I.

SECTION OF SURGERY.

FIRST CLINICAL EVENING.

President—R. L. Swan, President of the Royal College of Surgeons in Ireland.

Sectional Secretary—John Lentaigne, F.R.C.S.I.

Friday, January 19, 1900.

The President in the Chair.

Epithelioma of the Epiglottis and Larynx.

Mr. H. Gray Croly exhibited a male patient, aged forty-two years, who has a growth attached to the epiglottis. The patient was admitted into the City of Dublin Hospital in September, 1899. No history of syphilis. The patient became emaciated and suffered from considerable dyspnœa. Tracheotomy was performed on the 14th November, 1899. The operation was performed under chloroform. The veins were very large. Mr. Croly showed the silver trachea tube which he used for some days, and then exhibited a rubber tube. He also showed an improvement in the end of the tube which he has adopted so as to prevent irritation.

Professor Bennett said the point of greatest interest in the treatment of the case was whether in the face of the amount of glandular enlargement that had been, and still was, present, it would be wise to contemplate any further proceeding. To remove a portion of the larynx without removing the tract of lymphatics reaching to the junction of the subclavian and internal jugular veins would be a grave matter.

Dr. Knott asked if Mr. Croly regarded the enlarged veins as an anatomical peculiarity.

The President asked if Mr. Croly had made a definite diagnosis as to the nature of the disease. Was it not possible that the growth might be of some other kind?

Mr. Lentaigne inquired the duration of the case. Could Mr. Croly give some information as to the early symptoms?

Mr. Heuston asked if subsequent to the operation Mr. Croly could determine whether the disease was advancing more rapidly or more slowly than prior to the operation. Did the opening below tend to stop the growth into the larynx?

Mr. Benson-Goulding asked if there was any explanation why the operation had reduced the growth in the neck.

Mr. Kirkpatrick asked if there was any difficulty in inducing anæsthesia with chloroform? Giving chloroform to a patient with dyspnœa was a serious matter.

Mr. Croly, in reply, said he had shown the growth to a good many surgeons and some specialists, and they had agreed with his diagnosis. The fact of the glandular concatenation being present and enlarged was, to his mind, proof positive that the disease was not benign. Without binding himself to further operative interference or not, his inclination was to let sleeping dogs lie. He thought the large veins were the normal veins, increased in size by the dyspnœa. The dyspnœa and wasting were present for at least eight months previous to operation. The growth got so small for a time that it could scarcely be seen. He thought that of late it had increased in size. He attributed the decrease in size of the growth to the physiological rest of the larynx. The glands which had been very large had gone down very much, which seemed to indicate that tracheotomy stayed the progress of the disease. There was no difficulty either in producing or continuing the anæsthesia. Where a child was choking with membranous croup it was the practice to give chloroform, and the child breathed quietly.

Goître Removed by the Aid of Local Anæsthesia by Cocaïn.

Mr. John Lentaigne exhibited a patient from whom he had removed the greater portion of a very large goître on September 4th, 1899. The case was of interest inasmuch as the operation had been done entirely under local anæsthesia by cocaïn. It was well known that Professor Kocher habitually used this method with success in cases of severe goître, but he was not aware that so far anyone in Ireland had done so, and he thought the case might be of some interest. The result had been in every way most satisfactory. The patient, J. P., aged twenty, had been admitted to the Mater Misericordiæ Hospital on August 29th, suffering from a huge goître, which consisted of three lobes—a very large right lobe, a large middle lobe, and a comparatively small left lobe. The

patient was suffering from severe and constant dyspnœa aggravated by any exertion, and it was on account of this dyspnœa that Mr. Lentaigne felt himself bound to attempt removal of the growth by means of local anæsthesia, instead of employing ether or chloroform, either of which would in such a case add considerably to the danger of the operation. He was glad to say that during the entire operation immunity from pain was enjoyed by the patient, who showed no discomfort of any kind, except for a moment, when the upper horn of the growth, which burrowed deeply under the larynx, was being extracted. Very little blood was lost, as the vessels were tied before being cut. The goître proved to be of the colloid variety. The left lobe of the goître, which had been left, had shrunk since the operation to such an extent as to be now barely noticeable, and the patient was in excellent health and condition. The incision employed was the collar incision recommended by Professor Kocher.

Mr. Croly asked if there was both anterior and posterior pressure on the trachea? Was there much hæmorrhage? Was the cocaïn applied to the skin or under the surface, or in both ways? Why was the operation done more easily than if a general anæsthetic were employed? One important lesson to be learned from the case was that the more operations done without chloroform the better, provided they could be carried out painlessly.

Dr. Knott asked what was the total amount of cocaïn used, and what time elapsed from the application to the commencement of the operation? If the trachea was flattened, why was the dyspnœa not uniform—might not the recurrent laryngeal nerve be engaged?

Mr. Heuston asked whether the dyspnœa was a pressure dyspnœa or a nerve dyspnœa? Was the lobe which Mr. Lentaigne found passing in between the trachea and œsophagus part of the isthmus or of the right lobe? Did he find the isthmus passing in front of the trachea clearly defined?

Mr. Lentaigne, in reply, said there was very distinct pressure from behind. The upper horn of the goître ran inward behind the larynx. There was practically no hæmorrhage, as he was able to tie each vessel as he saw it. The cocaïn was used hypodermically, and was injected along the line where the incision was subsequently made; he did not think it would have any effect if applied to the surface of the skin. From time to time during the progress of the operation a little cocaïn was dabbed on the tissues. The operation was more easily carried out because both the usual plunging and struggling by the patient, and the constant trouble caused by the inhaler

getting in the operator's way, were obviated. There was much less danger, and, moreover, the recurrent laryngeal nerve could more easily be saved from damage. The total amount of cocaïn used was certainly not more than $\frac{3}{4}$ gr. A one per cent. solution made with sterilised water, and which also contained $2\frac{1}{2}$ per cent. of carbolic acid, was used. He commenced his incisions as soon he had completed the injections. As to the dyspnœa, he thought that traction, due to the weight of the tumour, might have had something to do with it. There was a very large middle lobe, which represented what had originally been the isthmus.

Foreign Body in the Knee-joint.

Mr. R. L. Swan showed a young man, aged twenty-two years, from whose knee, two years ago, he had removed a loose cartilage in the ordinary manner at the inner side. Soon afterwards he began to complain of symptoms indicating the presence of another similar body in the joint. Nothing, however, could by the most careful examination be felt. Mr. Swan waited for some time in the hope that the body would become detached, but the constant occurrence of locking of the joint, followed by synovitis, had the effect of rendering the limb useless. A skiagraph showed the outline of a foreign body in the joint. A lateral incision at the outer side was made, but this proved inefficient. Accordingly a transverse section of the patella was made, and the body was found attached by a strong fibrous envelope to the intercondyloid notch. The patient [exhibited] has a perfect joint.

Mr. Miles asked would Mr. Swan have undertaken the operation, considering the difficulties of the previous one, if he had not been able to demonstrate the foreign body with the X-rays? What was the material used in suturing the patella? Had he drained the joint?

Mr. Croly asked did Mr. Swan know there was a large cartilage in the joint before he used the X-rays? Could he not have performed the operation by shoving the patella to one side and getting at the notch between the condyles without complicating the case? Did he attribute a great deal of the result to the very free openings made into the joint?

Mr. Lentaigne asked if Mr. Swan could explain what took place when the joint became locked, and how was the sudden sickening pain to be explained. It seemed to him to be due to sudden and violent strain on the ligaments. What incision was used?

Mr. Swan, in reply, said he would not have ventured to operate if

he had not the skiagram before him, because without its aid there was, to some extent, only a theoretical opinion as to the nature of the disablement of the joint. He used two silver wire sutures. He did not drain the joint beyond the necessary cleansing in the progress of the operation. He treated it in the same way as a healthy peritoneal surface in laparotomy. As regarded the advantages of free opening into the cavity, of course the joint could be drained directly, but it might be infected more readily through a large than through a small opening. He did not think the valvular incision erred in principle. Punctured wounds were perfectly safe if the instruments which produced them were aseptic. In reply to Mr. Lentaigne's questions, he could only say that the foreign body became jammed between two sensitive surfaces, and by reflex irritation caused contraction of the quadriceps extensor. He had carefully considered the incision to be made before the operation, and in order not to have the cicatrix adherent over the patella he made a convex incision into the soft parts, with the concavity directed downwards.

Ligation of Subclavian Artery for Axillary Aneurysm.

Mr. Francis Heuston brought forward a man for whom he had ligatured the left subclavian artery, in its third stage, for traumatic subclavio-axillary aneurysm four years since. At the time of the operation he was fifty years of age, and had been twenty years in the army. He was admitted to the Adelaide Hospital in February, 1896, suffering from severe pain in his shoulder, left arm, and back, which was then continuous, although it had been for some time at first intermittent. The superficial veins of the left arm were tortuous, the arm being also swollen and œdematous. The clavicle was raised by a tumour occupying the supra and infra-clavicular regions, presenting a well-marked bruit, distensile pulsation and thrill. There was well-marked difference of the pulse in the right and left arms. The artery was ligated by catgut applied close to the outer side of the scalenus anticus muscle, the patient leaving hospital 23 days after operation, and resumed his ordinary occupation, which he has filled since without any return of symptoms.

Mr. Myles asked was Mr. Heuston able to feel carefully the condition of the artery on the cardiac side of the aneurysm before applying the ligature, and was the artery capable of carrying the ligature with safety. He (Mr. Myles) had understood that the aneurysm involved the third stage of the subclavian artery to a considerable extent. Did he draw the ligature sufficiently tight

to break the inner and middle coats, or to destroy the circulation?

Mr. Croly asked if Mr. Heuston had any difficulty with the lower cord of the brachial plexus or with the external jugular vein. Why did he select catgut in preference to ligatures such as ox peritoneum, which do not become absorbed too rapidly? Was the subclavian vein seen?

Dr. Martin asked if the two forms of pain had been noted in the case—the heavy, dull, boring pain, and the sharp and stinging pain.

Mr. Lentaigne asked why Mr. Heuston called it a traumatic aneurysm, the blow having been received two years before its appearance.

Dr. Knott asked if Mr. Heuston had attempted to discover whether the back of the clavicle were eroded.

Mr. Heuston, in reply, said he was able to feel the artery at the cope of the sterno-mastoid. At the commencement of the operation he expected he would have to tie the artery in the second stage, or even at the inner edge of the scalenus anticus, but he found its coat good, the only thing that looked like disease being that the sheath was more adherent to it than usual, and evidently thickened slightly. He tied the ligature with sufficient force to rupture the inner and middle coats. The lower cord of the brachial plexus gave no trouble, and he was able to shove the external jugular vein out of his way. He used catgut because it was the first aseptic absorbable material he could get. The double pains existed to a certain extent. At first the pain was interrupted and afterwards continuous, with paroxysmal severe pain. He had not examined the back of the clavicle. As to why he considered the aneurysm traumatic, the fact that the man had got an injury, although its not having come on for some time, would be against the theory. What he found at the operation proved that he was right.

Ligation of Popliteal Artery for Aneurysm.

Mr. Arthur Chance exhibited J. B., aged thirty-three, and married. He served in the Horse Artillery in India for seven years, and had suffered from syphilis. At the time of his illness he was engaged in the Dublin, Wicklow & Wexford Railway Works. His duties were connected with the repairing and putting together of railway engines, a work which entails the lifting of very heavy weights. Early in May last he noticed a dull pain at the back of his right knee. There was no noticeable swelling.

The pain lasted for about a week, and seven or ten days after it disappeared a throbbing pain commenced, which was diminished by flexing the knee, and which disappeared when the man lay down. At the back of the right knee was then observed a small pulsating tumour. The pain and swelling gradually increased until the 10th June, when the foot was noticed to be considerably swollen. Two days later he was admitted to the Mater Misericordiæ Hospital, where he was found to have in his right popliteal space a tumour about the size of a Tangerine orange, which showed all the classical signs of aneurysm. The right foot was much swollen and œdematous. On the 21st June the artery was exposed at its upper part by an incision parallel to the adductor magnus. The hamstring tendons were drawn backwards, the artery tied with silk, and the wound closed. There was no pain or rise of temperature, and the wound healed by first intention. It is now six months since he has returned to his duties in the railway works, and there is no sign of trouble in the aneurysm.

Mr. Croly asked if Mr. Chance had tried pressure before tying the artery. If the artery was diseased why did he tie the popliteal instead of the superficial femoral? How long was it since the man had syphilis? What ligature did he use?

Mr. Heuston asked if, previous to the ligation, any treatment was employed, and if so, what was its nature and for how long was it used.

Mr. Myles asked had Mr. Chance ever seen a bad result follow ligature of an artery for aneurysm when the operation was carried out with aseptic precautions.

Mr. Chance, in reply, said he did not try pressure. One of the drawbacks of pressure in these cases was that it established a collateral circulation which often interfered with the ligature. The results of ligature had been sufficiently satisfactory to make him place a good deal of confidence in it. He had not had a bad result either in idiopathic or traumatic aneurysms. He tied the popliteal artery—first, because the man's foot was very œdematous, and it was necessary to choose the method which would best establish the collateral circulation; secondly, because the man was young; and, thirdly, because he was occupied in exceptionally heavy work. There was a considerable distance between the aneurysm and the ligature. He could not say when the man had syphilis, but it was a substantial time ago.

The Section then adjourned.

SANITARY AND METEOROLOGICAL NOTES.

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Vital Statistics

For four Weeks ending Saturday, February 24, 1900.

The deaths registered in each of the four weeks in the twenty-three principal Town Districts of Ireland, alphabetically arranged, corresponded to the following annual rates per 1,000 :—

Towns, &c.	Week ending				Average Rate for 4 weeks	Towns, &c.	Week ending				Average Rate for 4 weeks
	Feb. 3	Feb. 10	Feb. 17	Feb. 24			Feb. 3	Feb. 10	Feb. 17	Feb. 24	
23 Town Districts	28·8	28·3	36·2	37·5	32·7	Limerick -	44·9	29·5	42·1	51·9	42·1
Armagh -	35·6	35·6	28·5	42·8	35·6	Lisburn -	42·6	17·0	12·8	34·1	26·6
Ballymena	28·2	16·9	33·8	33·8	28·2	Londonderry	29·8	20·4	40·8	40·8	33·0
Belfast -	19·6	27·2	32·8	26·3	26·5	Lurgan -	27·4	31·9	36·5	54·7	37·6
Carrickfergus	23·4	5·8	35·1	17·5	20·5	Newry -	32·2	20·1	48·3	56·3	39·2
Clonmel -	34·1	19·5	9·7	58·4	30·4	Newtownards	17·0	45·4	28·3	45·4	34·0
Cork -	33·2	22·1	29·1	33·9	29·6	Portadown -	12·4	6·2	18·6	49·5	21·7
Drogheda -	11·4	72·3	41·8	41·8	41·8	Queenstown	23·0	34·4	23·0	17·2	24·4
Dublin - (Reg. Area)	33·6	29·1	40·9	48·0	37·9	Sligo -	35·5	5·1	15·2	15·2	17·8
Dundalk -	33·5	33·5	4·2	25·1	24·1	Tralee -	67·2	44·8	83·9	61·6	64·4
Galway -	15·1	79·3	56·7	45·3	49·1	Waterford -	45·8	19·9	59·7	21·9	36·8
Kilkenny -	42·5	61·4	28·3	42·5	43·7	Wexford -	31·6	22·6	27·1	22·6	26·0

In the week ending Saturday, February 24, 1900, the mortality in thirty-three large English towns, including London (in which the rate was 21·5), was equal to an average annual death-rate of 24·2 per 1,000 persons living. The average rate for eight principal towns of Scotland was 31·7 per 1,000. In Glasgow the rate was 35·1. In Edinburgh it was 25·8.

The average annual death-rate represented by the deaths registered during the same week in the Dublin Registration Area and in the twenty-two principal provincial Urban Districts of Ireland was 37·5 per 1,000 of their aggregate population, which, for the purpose of this return, is estimated at 1,062,188.

The deaths from the principal zymotic diseases in the twenty-three districts were equal to an annual rate of 1·5 per 1,000, the rates varying from 0·0 in fifteen of the districts to 11·2 in Tralee—the 11 deaths from all causes registered in that district comprising 1 from typhus and 1 from enteric fever. Among the 181 deaths from all causes registered in Belfast are 2 from scarlatina, 3 from whooping-cough, 1 from diphtheria, 1 from ill-defined fever, 2 from enteric fever, and 3 from diarrhœa.

In the Dublin Registration Area the births registered during the week amounted to 257—152 boys and 105 girls; and the deaths to 342—171 males and 171 females.

The deaths, which are 130 over the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 51·0 in every 1,000 of the population. Omitting the deaths (numbering 20) of persons admitted into public institutions from localities outside the area, the rate was 48·0 per 1,000. The 342 deaths registered include 78 in the South Dublin Union Workhouse, of which number 51 occurred before Saturday, February 17. During the eight weeks ending with Saturday, February 24, the death-rate averaged 42·6, and was 9·4 over the mean rate for the corresponding portions of the ten years 1890–1899.

The number of deaths from zymotic diseases registered during the week was 30, being 6 under the number registered in the preceding week, but 6 over the average for the eighth week of the last ten years. The 30 deaths comprise 5 from measles, 1 from scarlet fever (scarlatina), 17 from influenza and its complications, 1 from enteric fever, 4 from diarrhœa, and 1 from erysipelas.

Six cases of measles were admitted to hospital during the week, against 3 admissions in the preceding week; 6 measles patients were discharged, and 25 remained under treatment on Saturday, February 24, being equal to the number in hospital on that day week.

The number of cases of scarlatina admitted to hospital was 10, being 2 over the admissions in the preceding week, but 5 under the number for the week ended February 10; 14 patients were discharged, 2 died, and 58 remained under treatment on Saturday, being 6 under the number in hospital at the close of the preceding week. There were, in addition, 16 patients at Beneavin, Glasnevin, the Convalescent Home of Cork-street Fever Hospital.

Sixteen cases of enteric fever were admitted to hospital, against 11 admissions in the preceding week, and 10 in the week ended February 10; 14 patients were discharged, 1 died, and 68 remained under treatment on Saturday, being 1 over the number in hospital on that day week.

The weekly number of cases of diphtheria admitted to hospital, which had fallen from 10 in the week ended February 3, to 5 in the following week and to 1 in the week ended February 17, rose to 12; 5 patients were discharged during the week, and 23 remained under treatment on Saturday, being 7 over the number in hospital at the close of the preceding week.

The deaths from diseases of the respiratory system registered amount to 94, being 37 in excess of the average for the corresponding week of the last ten years, and 20 over the number for the previous week. They comprise 74 from bronchitis and 19 from pneumonia.

Meteorology.

Abstract of Observations made in the City of Dublin, Lat. 53° 20′ N., Long. 6° 15′ W., for the Month of February, 1900.

Mean Height of Barometer,	29·540 inches.
Maximal Height of Barometer (on 28th, 9 p.m.),	30·238 „
Minimal Height of Barometer (on 19th, 9 a.m.),	28·522 „
Mean Dry-bulb Temperature,	36·4°.
Mean Wet-bulb Temperature,	34·9°.
Mean Dew-point Temperature,	32·3°.
Mean Elastic Force (Tension) of Aqueous Vapour,	·186 inch.
Mean Humidity,	85·4 per cent.
Highest Temperature in Shade (on 24th),	55·9°.
Lowest Temperature in Shade (on 8th),	21·7°.
Lowest Temperature on Grass (Radiation) (on 12th)	17·1°.
Mean Amount of Cloud,	56·3 per cent.
Rainfall (on 23 days),	3·156 inches.
Greatest Daily Rainfall (on 26th),	·538 inch.
General Directions of Wind,	W.

Remarks.

Not since 1895 has so severe a February been experienced. In Dublin the arithmetical mean temperature was actually 4·9° *below* that of January, 1900, and the mean dry-bulb reading at 9 a.m. and 9 p.m. was 5·7° below the value for January. During the first half of the month snow and hail fell almost daily—often in

large quantities—and the ground was more or less covered with snow, even in the city, on 10 days. On the Dublin and Wicklow Mountains snow lay to a great depth throughout the greater part of the month. As is usual in N.E. winds in winter, the precipitation was much greater along the east coast of Ireland than in the interior. At Greystones the rainfall was nearly 7 inches (6·670 inches). In Dublin it slightly exceeded 3 inches (3·156 inches). On the 22nd a warm current of air rapidly spread northwards over Western Europe, sending the thermometer up to 79° at Biarritz (on the 24th), 65° in Paris (on the 25th), 63° at Brussels (on the 25th), 60° at Geldeston (on the 24th), and 58° in London (on the 26th). At the close of the month a general and marked fall in temperature was everywhere in progress. The lowest temperature recorded at the Stations of the Meteorological Office during the month was — 3° at Braemar, in Aberdeenshire.

In Dublin the mean temperature (37·9°) was 4·9° below the average (42·8°); the mean dry-bulb readings at 9 a.m. and 9 p.m. were 36·4°. In the thirty-five years ending with 1899, February was coldest in 1895 (M. T.=34·2°), and warmest in 1869 (M. T.= 46·7°). In 1899 the M. T. was 44·0°.

The mean height of the barometer was 29·540 inches, or 0·315 inch below the average value for February—namely, 29·855 inches. The mercury rose to 30·238 inches at 9 p.m. of the 28th, and fell to 28·522 inches at 9 a.m. of the 19th. The observed range of atmospheric pressure was, therefore, 1·716 inches.

The mean temperature deduced from daily readings of the dry bulb thermometer at 9 a.m. and 9 p.m. was 36·4°, or no less than 5·7° below the value for January, 1900. Using the formula, *Mean Temp.=Min.+ (Max.—min.* × ·50), the M. T. is 37·9°, compared with a twenty-five (1865–1889) years' average of 42·8°. On the 24th the thermometer in the screen rose to 55·9°—wind, S.; on the 8th the temperature fell to 21·7°—wind, W. The minimum on the grass was 17·1° on the 12th—wind, S.W.

The rainfall was 3·156 inches, distributed over 23 days. The average rainfall for February in the twenty-five years, 1865–89, inclusive, was 2·150 inches, and the average number of rainy days was 17·2. The rainfall, therefore, and rainy days were much above the average. In 1883 the rainfall in February was large—3·752 inches on 17 days; in 1879 also 3·706 inches fell on 23 days. On the other hand, in 1891 only ·042 inch was measured on but 2 days.

The atmosphere was foggy on 6 days—the 1st, 8th, 12th, 13th, 14th, and 25th. The amount of cloud—56·3 per cent.—was much below the average—66 per cent. High winds were noted on 9

days, and reached the force of a gale on the 15th, 16th, and 23rd. Solar halos were seen on the 13th, 18th, 20th, and 21st. A lunar halo was seen on the 9th. Hail fell on the 1st, 2nd, 3rd, 4th, 5th, 6th, 10th, 15th, and 20th. Snow or sleet fell on the 1st, 2nd, 3rd, 4th, 5th, 6th, 7th, 8th, 9th, 10th, 13th, 15th, and 20th—13 days in all.

The temperature reached or exceeded 50° in the screen on only 3 days, and it fell below 32° on 12 nights, compared with as many as 18 nights in 1895, only one night in 1896, 7 nights in 1898, and 4 nights in 1899. The minima on the grass were 32° or less on 21 nights, compared with every night in 1895, and 14 nights in 1899. The thermometer failed to rise to 40° in the screen between the 1st and 14th.

In Dublin the rainfall up to February 28th, 1900, amounted to 5·735 inches on 50 days, compared with 4·651 inches on 39 days in 1899, only ·714 inch on 16 days in 1891, and a twenty-five years' (1865–1889) average of 4·350 inches on 34·5 days.

At Knockdolian, Greystones, Co. Wicklow, 6·670 inches of rain fell on 20 days. The heaviest fall in 24 hours was 1·140 inches on the 14th. The total fall to February 28th inclusive was 10·436 inches on 44 days, compared with 8·610 inches on 42 days in 1899, 3·980 inches on 29 days in 1898, 5·190 inches on 37 days in 1897, and only 1·940 inches on but 17 days in 1896.

The rainfall in February at Cloneevin, Killiney, Co. Dublin, amounted to 4·41 inches on 23 days. The average rainfall for February during 15 years, 1885–1899, at this station is 1·590 inches on 13·2 days. The greatest rainfall in 24 hours was ·70 inch on the 26th. Since January 1 the rainfall was 7·23 inches on 48 days, compared with 6·28 inches on 36 days in 1899, 3·32 inches on 29 days in 1898, 4·31 inches on 38 days in 1897, and 1·64 inches on 19 days in 1896.

At the National Hospital for Consumption, Newcastle, Co. Wicklow, the rainfall was 5·929 inches on 20 days, 1·095 inches being measured on the 14th, and ·801 inch on the 26th. The rainfall to February 28th, 1900, at this Second Order Station amounts to 9·739 inches on 45 days. The shade thermometers rose to 53·5° on the 23rd, and fell to 21·1° on the 8th.

At the Railway Hotel, Recess, Connemara, Co. Galway, the rainfall in February was 3·786 inches on 17 days, ·860 inch being registered on the 20th, which was a wild day with a severe thunderstorm and very vivid lightning in the evening, lasting about 2 hours. Heavy hailstorms, followed by a brief but sharp thunderstorm, occurred on the 17th.

PERISCOPE.

CASE OF LACERATION OF THE INTESTINE WITH RUPTURE OF THE MESENTERIC ARTERY WITHOUT A SKIN WOUND.

F. J. Shepherd, M.D., reports the following case in the *Montreal Medical Journal*, July, 1899:—J. S., aged thirty years, a stout man weighing over 200 pounds, was brought to the Montreal General Hospital on May 24th, 1898, suffering from a severe injury of the abdomen. His condition was most serious, his pulse could hardly be felt at the wrist, the surface of his body was cold, and he had sighing respiration. Vomiting of large quantities of coffee-ground material was continuous, and he complained of severe pain in the abdomen. There was a contusion seen immediately below and a little to the left of the umbilicus; the surface was not broken. Over this region, on percussion, a dull note was elicited everywhere, and this dulness extended rapidly. Evidently internal hæmorrhage was going on, and immediate operation was advised and consented to. He was taken to the operating room. An incision was made in the median line, and on cutting through the skin I found I was in the abdomen, the recti muscles having been torn through. An immense amount of blood gushed out, and also a lot of intestine protruded. The bleeding being furious, with the help of Dr. Armstrong, the deeper part of the abdomen was exposed, and then it was seen that the small bowel was torn completely across, and the rent had continued on through the mesentery down to its attachment to the spine, tearing across near its origin the superior mesenteric artery. This was the source of the hæmorrhage, and the vessel was with difficulty secured. Whilst this was being done, normal saline solution was transfused into the veins to the amount of five pints, and hypodermics of brandy were given. At the same time the rent in the mesentery was closed, and the bowel was sutured with a continuous Lembert. The abdomen was then filled with warm saline solution and closed with silkworm-gut sutures. Although comparatively little blood was lost after opening the abdomen, the man's condition after leaving the table was very alarming. He never recovered consciousness, but only lived two hours. Even had the operation been successful, the cutting off of the blood supply to the greater portion of the small intestine would inevitably have caused gangrene of a considerable part of the bowel, and thus the case was hopeless from the first. The

accident is a rare one, and I do not think there are many cases reported in literature.

DIONINA.

This new derivative of morphin is thus described (*Rivista Critica di Clinica Medica*) by Dr. F. Battestini, of Turin:—Dionina is the hydrochloride of monoethylmorphine. It is a white powder, of a bitter taste, consisting of very fine needle-like crystals; its fusion point is 288° F. It possesses the great advantage of being freely soluble in cold water, and forms a neutral solution; one part in seven is soluble in water at 56° F. Its physiological action corresponds closely to its chemical constitution, having the narcotic properties of morphin and codein, though not producing the profound narcotism of the first, or the excitability of the spinal cord of the second. Melning considers that the substitution products of the ethyl base are better tolerated than that of the methyl, and he quotes phenacetin as an example. Withal, caution in its use is urged until more is known of its action. All the experiments made with it have, so far, shown it to be possessed of marked sedative and hypnotic properties. As a sedative it is markedly useful in lessening the violence of coughing when the cough is due to irritation of the bronchial tubes, or to dry bronchitis, the initial stage of tuberculosis, and acute laryngitis. The effect of the chemical is felt in fifteen or thirty minutes after its administration, and it remains for a greater or less period of time, according to the severity of the exciting cause. Its effects do not last as long as those of a corresponding dose of codein. For emphysema, or the cough of bronchial asthma, it produces no beneficial effects; neither is it useful in old-standing bronchorrhœa. Its sedative effect in no way lessens the expelling powers of the bronchi; some authors affirm (Heim, Kiste), that it makes the expulsion of mucus more easy and more abundant. The sedative action is manifest a little after taking the medicinal dose, with a sense of exaltation similar to that of morphin, and with a tendency to sleep. Insomnia due to pain is relieved by it. Heim praises highly a mixture of the chemical and bromide of sodium, which latter, he says, increases its effect and does away with its inconvenience. Hesse notices that dionina has no effect on the trembling of delirium. The analgesic properties of the drug are the subject of some difference of opinion. Schröder denies the presence of such properties, or if they are present they are much less marked than those of morphin. Heim, on the other hand, states that he has good results from the use of the drug in painful diseases—for example, in gastralgia and in ulcers of the stomach, in diseases of cholelithiasis and in five cases of neuralgia of

divers sorts, and in cases of peritonitis following perforation. According to this observer the action of dionina is felt from twenty to thirty minutes after it is taken, and lasts from two to four hours. This duration is not constant, being less permanent in cases of nephritis, gastralgia, and nervous diseases. Bloch, who appears to have made a special study of the drug, speaks highly of its analgesic effects, and recommends it strongly in neuralgias—particularly ischialgia. He also recommends it to relieve the pain of iodine-guaiacol applications, in epididymitis, in the use of the actual cautery, in the managing of painful arthritis, in minor gynæcological operations, and in the cure of neuralgias due to salpingitis. Dionina is also recommended as an important drug in the treatment of morphinism. For the solution of morphin that of dionina is substituted gradually, and in a short time, the morphin may be wholly discontinued. Heinrich, in these cases, uses the drug hypodermically. On the bowels and bladder it exerts less power than morphin, and does not constipate. Following on the use of the drug a sense of weariness, of sleepiness, and acceleration of pulse have been noticed; and Heim has found its use to be attended with a form of cardiac dyspnœa. In conclusion, the author thinks dionina worthy of being introduced into practice as a useful addition to our hypnotics, morphin and codein. The doses of dionina are, as a rule, those of codein; they vary from one to two centigrammes for a dose, and from four to eight centigrammes in the day. By hypodermic injection the dose is from one centigramme to one centigramme and a half. In cases of morphinism the initiatory dose is five centigrammes, rising to eight centigrammes hypodermically. The following formulæ are recommended:—℞. Dionina, 30 centigrammes; distilled water, 60 grammes; syrup, 20 grammes—Mix. One teaspoonful for a dose. ℞. Dionina, 30 centigrammes; bitter almond water and distilled water, equal parts, 5 grammes—Mix. Twenty drops every evening. ℞. Dionina, 30 centigrammes; bicarbonate of sodium, 5 grammes—Mix and divide into ten powders. Three or four powders daily in cases of gastralgia. ℞. Phenacetin, 20 centigrammes; dionina, 2 centigrammes. Three or four such powders daily in cases of neuralgia. ℞. Dionina, 40 centigrammes; ipecac., 1 gramme; starch, 4 grammes; white of egg, 1 or sufficient to make 60 pills. Five or ten pills daily as may be necessary in cases of severe cough. ℞. Dionina, 15 centigrammes; bismuth subnitrate, 5 grammes—Mix and make ten powders. Four or five daily, as may be necessary, in cases of gastralgia. ℞. Dionina, 3 centigrammes; bromide of sodium, 2 grammes; distilled water, 130 grammes; syrup, 10 grammes—Mix. To be taken at night as an hypnotic.

EXAMINATION OF CANDIDATES FOR THE ROYAL ARMY MEDICAL CORPS AND HER MAJESTY'S INDIAN MEDICAL SERVICE.

THE following papers were set for the recent Examinations:—

Medicine and Pathology.—Professor McCall Anderson. Friday, 2nd February, 1900, from 10 a.m. to 1 p.m. [N.B.—The replies to be written with the ink provided, and not with a pencil or pale ink.] 1. A man, apparently about 40 years of age, was brought into hospital by two policemen, who found him lying in a neighbouring street quite unconscious, and who knew nothing further with regard to him. Name the conditions which might be present, and give in detail the diagnostic points in connection with each. 2. State how you would test the urine quantitatively for (*a*) albumen, (*b*) sugar, (*c*) urea. 3. How would you treat a typical case of typhoid fever, and all its complications? 4. Give, in *tabular form*, all the points which would help you to distinguish soft (non-infecting) from indurated (infecting) chancres.

Surgery.—Mr. Howard Marsh. Friday, 2nd February, 1900, from 2 p.m. to 5 p.m. All four questions to be answered. 1. What symptoms attend fracture of the spine, with crushing of the cord, in the mid-dorsal region? What complications may result? State in full detail the treatment you would adopt in the different stages of such a case. 2. Give the causes, symptoms, differential diagnosis, and teatment of inflammation of the prostate gland. What complications may arise, and what treatment would they severally require? 3. Describe carcinoma of the rectum in respect to its pathology, and its symptoms and treatment in the different stages of its course. 4. Enumerate the affections of the parotid gland with which you are acquainted. Give their differential diagnosis, and the treatment appropriate to each.

Chemistry and Materia Medica.—Dr. Norman Moore. Saturday, 3rd February, 1900, from 10 a.m. to 1 p.m. *Chemistry—Practical Pharmacy.* 1. How would you ascertain the presence of arsenic in a specimen of food or of medicine? What are the official preparations of arsenic? 2. How are the following prepared:—(1) Carbolic acid, (2) glycerine, (3) hydrochloric acid? Give the formula of each. 3. Mention the chief astringents of the Pharmacopœia, and give the dose of each. 4. Classify the purgatives of the Pharmacopœia, and give the dose of each. 5. What preparations in the Pharmacopœia are derived from (1) cinchona bark, (2) colchicum corm, (3) colchicum seeds, (4) iodine, (5) potassium and its salts?

Anatomy and Physiology.—Mr. Cunningham. Saturday, 3rd February, 1900, from 2 p.m. to 5 p.m. 1. Describe the arrangement of the various structures which lie on the dorsum of the wrist, and, in doing so, bring out the points which bear on the surgery of the region. 2. Describe the posterior columns of the spinal cord, and state what you know of the connections of the nerve-fibres which compose them. Where do these fibres arise and how do they end? 3. Explain what is meant by the expression "cardiac cycle," as applied to the action of the heart. State the relative duration of each part of the cycle, and mention the changes which take place in the heart during each part of the cycle. 4. Describe the structures which enter into the formation of the scalp above the level of the temporal ridges, and lay particular stress on those points which have a practical bearing.

Natural Sciences.—Dr. Norman Moore. Friday, 9th February, 1900, 2 p.m. Candidates may answer not more than six questions, and they must confine themselves to two branches of science only. *Geology and Physical Geography*:—1. What are the chief fossils of the Eocene strata in the British Islands? In what localities are such strata to be seen 2. Explain the terms (1) delta, (2) watershed, (3) denudation, (4) fault, (5) metamorphic rocks, giving examples of each. 3. Explain the formation of coal measures. In what parts of the world is true coal known to exist? Where are the chief deposits of petroleum? *Zoology*:—1. Write an account of the life-history of (1) Bilharzia hæmatobia, (2) Hirudo medicinalis, (3) Tænia echinococcus 2. Classify the following animals, adding any notes as to the structure or life-history of each: (1) jellyfish, (2) mosquito, (3) tsetse fly, (4) dragon fly, (5) flying fish, (6) echidna, (7) ostrich, (8) hyrax, (9) antelope, (10) giraffe. 3. Describe the structure of (1) the fore foot of a horse, (2) the fore foot of a camel, (3) the stomach of a camel. *Physics*:—(1) Write a short account of the Röntgen rays. Describe the apparatus necessary for their production and use. 2. Explain the terms (1) coefficient of expansion, (2) specific gravity, (3) boiling point, (4) dew point. 3. Explain the formation of a rainbow and the arrangement of its colours. *Botany*:—1. Give the characters of the following natural orders: (1) Geraniaceæ, (2) Ericaceæ, (3) Liliaceæ, (4) Gramineæ, (5) Cruciferæ. 2. What is the botanical nature of (1) a potato, (2) a banana, (3) an orange, (4) an apple pip, (5) a fig. 3. Describe (1) the stinging apparatus of the nettle, (2) the chief forms of inflorescence, (3) the chief forms of apparatus for the aerial distribution of seeds.

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PART I.

ORIGINAL COMMUNICATIONS.

ART. XV.—*On the Study of Diseases of Children.* By LANGFORD SYMES, F.R.C.P.I., &c.; Physician to the Orthopædic Hospital of Ireland; Physician to the Homes for Destitute Children; Physician to the Convalescent Home, Stillorgan; Additional Examiner, Royal College of Physicians; Member of the Childhood Society; formerly Clinical Assistant, Deputy Medical Registrar and Pathologist, Hospital for Sick Children, Great Ormond-street, London, &c., &c.

THE subject which I here introduce is one of growing importance, and one in which, I fear we in this country are perhaps a little *behind our neighbours* in England, Scotland, the Continent, and America.

Now that we have *distinct sections* in our associations for this branch of science, when it is carefully studied by many able physicians, and seeing that *separate hospitals* exist for nursing and treatment, and cliniques with their professors and lecturers are exclusively set apart for research and instruction in the peculiar diseases of children all over the world, it is no longer necessary to point out the position which this branch of medicine now holds.

This singular tendency of the present day has certainly been productive of most of the greatest discoveries and advances of our time, for the Science of Medicine has

grown large and vast. There are many indications that the future of medicine will be more and more an age of particular studies. Deeper and deeper must men be drawn into each branch than their predecessors, for were this not so, our knowledge could not increase. At the present day our literature and knowledge as a whole are so great that they are in their perfection and entirety, far beyond the grasp of any ordinary mind, or the scope of the longest life. The investigation of separate departments of medicine has thus not only become a necessity, but the public now require it of us. We as a profession exist for the benefit of our fellow-man, and with respect to particular knowledge and training on the part of their physicians in the various by-paths of medicine and surgery, the public may now be said to have almost acquired the right of demand.

The British Medical Association has devoted a distinct section to the discussion of these diseases, productive of great good, and the International Medical Congress of Hygiene and Demography has done the same. In the various teaching centres of England and Scotland we have *lectures*, *cliniques* and *demonstrations* held, and *professors* and lecturers on diseases of children now hold important chairs in the universities and colleges of London, Edinburgh, Glasgow, Liverpool, Manchester, and Leeds; while Paris and Berlin are both remarkable for the very excellent work done in this department.

In America this study has reached a high pitch of development; witness the fine children's hospitals, the scientific dietaries, even the percentages of milk constituents being prescribed for each individual case, and compounded at their milk laboratories, and the appearance of books on separate departments, a kind of sub-culture—*e.g.*, Sach's "Nervous Diseases of Children, &c." This branch, then, has now a growing *literature* of its own, recently advancing by great strides. There are also in some parts of the world valuable periodicals devoted exclusively to the diseases of children. Such literature is, however, deplorably absent in this country, for England, Ireland, and Scotland between them have not yet raised a good periodical on children's diseases.

One of the most inciting stimuli to this study is that so

well expressed in the sentence, "The child is father to the man." Disease in infancy affects the future. It may mar and paralyse the individual's prospects in after life. Many diseases in adults are caused by the neglect of disease in infancy. If we neglect the health of the child we cannot have healthy men and women. In this connection are often seen the dire effects of "*infantile rheumatism*," of "*rickets*," of "*scurvy rickets*," of "*rheumatoid arthritis*" (that most peculiar and obscure disease), of "*posterior basal meningitis*" (the existence and pathology of which has only been recently investigated by Drs. Gee, Barlow and Still), of "*infantile paralysis*," of the various tubercular processes, of so-called "*marasmus*," of "*chorea*," or that strange affection known as "*splenic anæmia*."

Hosts of other diseases almost peculiar to infancy may be cited as bearing on the future of the child, and stimulating us to inquire with all assiduity into the obscure processes underlying these affections.

Rapid advances are now being made in this department. We have earnest investigators at work, and knowledge is being acquired and utilised. The accurate clinical investigation of the cases, the strict inquiry into the family and hygienic histories, the noting of all previous illnesses of the child, and finally the careful registration of its present condition will produce a mass of clinical material which will much elucidate the obscurities of the study, while *post-mortem* examinations have revealed wonders in recent years.

Again, nearly all the advances in the knowledge of these diseases have been made by men who have made a profound study of sick children, and familiarity with their maladies can be gained only by extensive experience at the bedside. Witness, for instance, the labours of Kassowitz and Jenner in "*rickets*," of Barlow and Cheadle in "*scurvy rickets*," of Barlow, Gee, and Still in "*posterior basal meningitis*," of Barlow and Warner on "*subcutaneous nodules*," or of M. Parrot, Baginsky, and others.

Touching such a serious subject, fraught as it is with some of the most obscure diseases that affect mankind, and surrounded with difficulties so numerous and profound that few have hitherto attempted to conscientiously fathom

its mysteries, it is interesting to view the position in medicine which this fascinating study has occupied. It was *formerly "tacked on" to a course of midwifery*; but unfortunately in most cases this only consisted in the name being appended to the professor's course of lectures. But those were the days when the obstetric art was less far advanced, when gynæcology as it exists now was unknown or *in embryo*, and before our accoucheurs became such brilliant operating surgeons.

This enormous growth of midwifery and its correlated sciences has therefore so—rightly—demanded all the skill and time of our masters in these arts that the insidious processes of children's diseases have of late years taken with many a second place, and with most no place at all. This has been inevitable, and so these diseases have been hitherto untaught in most of our schools. Again, between the two subjects of midwifery and diseases of children it is impossible to trace any scientific connection, except perhaps some accidents and conditions of the new-born as the direct result of child-birth. It cannot, therefore, be expected that the scientific research and teaching of all the depths of this study must still encumber our obstetricians, for instead of this supplement to the midwifery course being a simple, easy matter, as was at that time thought, it turns out to be perhaps one of the most obscure and difficult branches in the entire domain of clinical medicine. The result is therefore that these diseases have hitherto been necessarily *much neglected*, and even yet are *ill understood*.

Nothing in this study is more melancholy than the *high mortality*. The death-rate of children under one year of age is simply appalling. Into a discussion of the causes of this high mortality one cannot enter here; they have been described elsewhere,[a] and they are too profound to be embraced in a general review such as this. There is also evidence that serious neglect of sick children exists at the present day both in the homes and schools, chiefly, however, among the middle and poorer classes of society.

The phrases, "*I am sure it has worms!*" or "*It is evidently*

[a] Cf. On the Mortality of Children in Ireland, 1886–1896. The Medical Magazine, June, 1898; also Transactions of the Academy of Medicine in Ireland, 1898; and the Dublin Journal of Medical Science. Ibid.

teething!" have too often led good physicians to relax their careful scrutiny of the case, and prescribing superficially or at haphazard, to pass over perhaps a case of *cerebellar tumour, cerebral abscess, intussusception*, or other fatal disease. It is well known there is hardly anything more difficult in medicine than to skilfully examine and diagnosticate the case of a young infant which perhaps at the time is resisting every effort of the physician. The occasional misleading story of the mother or friend aggravates this, and a trap is thus ever set to catch the unwary physician who may hastily prescribe, or to whom perhaps the subject may not be an interesting one.,

The medical *examination of a sick child requires a singular dexterity.* It is, moreover, mainly upon medical skill and influence that future improvement in these conditions must depend.

There seems also to be a remarkable *lack of instruction* in diseases of children, even at some of our large hospitals, and with this we should contrast the awakening interest of some of the provincial schools where the students are specially examined in this branch. The pessimistic spirit of almost all students in approaching an infant cannot therefore be wondered at. It starts crying, and the examination is given up, whereas if properly trained they probably would not have disturbed it at all, or, if so, they would know that the cry was a perfect mine of information even if the student could get no further. When every medical man will have the opportunity of taking out a certified course of practical instruction in diseases of children, he will be provided with the skill and knowledge to overcome such deficiences, but not until then.

Until very recently no such teaching has existed, and so the diseases of children have been a sealed book to most of us. It is our duty as physicians to study with all the skill we can their peculiarly weird complaints.

Serious *disease is very frequent* amongst children, but it often requires much searching to find it out. The care of the young in other paths of nature teaches us many lessons, and a comparison of the lives of animals or plants contrasts forcibly with the neglect of children in many places.

One of the most interesting prospects to the student of

the diseases of children is the fact that *many cases of disease are still undescribed.* Cases are seen in hospitals and private practice which have no true description in medical literature. There is, therefore, abundant original work to be done in this domain. Diseases now surely fatal may yet be alleviated or cured by new methods. Many morbid processes need accurate investigation, and there is much to be seen at the bedside which cannot be found in any book.

The differences between the diseases of children and those of adults, those which attack one and not the other, the varieties even of the same disease as met with in both, are sufficient to fill a most useful volume; one can therefore merely allude to a few. The young child is of the frailest calibre, and its sympathies of the most tender and delicate nature. Disregard for this, nay, the passing oblivion of it, will hinder the investigation of many a case, and the opportunity will be gone, perhaps never to return, of examining some organ of importance. Mindful of the stranger who perhaps used it inconsiderately the child will not so resiliently lend itself again to a careful examination.

We are also dealing with a period when development and growth are increasing and rapid. This remarkable process of growth modifies in a certain measure each disease, and tends to remove from the child's ailment that sharp outline or delimitation and mapped out edge of disease which is witnessed in the fully grown organism. We have then quite a different semeiology. The *symptoms of disease in children are not the same* as those shown by adults, and the symptoms of even the same disease affecting both are quite different in the two cases. *Adult patients are therefore not a true guide* to the physician when he proceeds to investigate the case of an infant. In some cases the symptoms are indeed so different that they are hardly recognisable as due to the same morbid process.[a] Again, the pathology of some diseases of children is different from that in adults. This is a striking fact. For instance, why will tubercle so readily affect the brain and meninges in a young child when adult patients so frequently escape? At present we cannot tell. It is so also in some instances. This

[a] *Cf.* Enteric fever.

disparity is sometimes observable even in morbid anatomy itself. It cannot, however, be wondered at, for we find that some organs of young children are *anatomically different* from those of grown up individuals. These points in children still need investigation. The *brain* has an anatomy and physiology of its own in childhood; likewise the very *bones* which enclose it—at times, indeed, being so deficient as to scarcely suffice to contain it ("fœtal rickets"). The *heart* varies from the arrangement so familiar in adults. The *stomach* is not the same. The *mouth* is essentially dissimilar. The *liver* varies in its proportionate size and relations. The *spleen* also. The *bladder* is not in the same place, nor has the *kidney* even the same anatomical appearance. Shown for the first time to any qualified medical man, I venture to say he would not even recognise it as human, but attribute it to one of the lower animals.

Likewise the *secretions* are unlike those of fully-matured organisms. The *urine* is not the same. Do we know the proper quantity of urine a child at any given age should excrete? Are we certain of its perfectly normal specific gravity? Do we know its correct chemical composition? As yet we do not know any of these points. With the other secretions the case may be similar.

Then, again, we find in infancy some diseases which are more unfavourable and dangerous than they are to adult patients, and, as once pointed out by Dr. West, rational treatment, and, as far as we can see, correct treatment, is often strikingly unavailing. Failure sometimes follows our best efforts. Young infants may change very rapidly, and therefore require more watchful attention.

In taking the *history* of these diseases very different information has to be sought for to that in an ordinary medical case. The parents must be questioned as to the birth, its antecedents, the food, state after birth, and hygienic conditions, in addition to the notes usually made in other cases.

Another very important subject is *the therapeutics of childhood*. How different from that of adult life. No rule of thumb is possible for use at different ages—*e.g.*, a child will stand a larger dose of belladonna proportionally than

an adult, while an infant will be poisoned by what *should be a proportionate* dose of opium. The doses of arsenic, mercury, or purgatives all have to be adapted to the idiosyncrasy of childhood. Then, too, counter-irritants are often recklessly applied to young children, and sometimes with disastrous effects. Again, in bronchitis, the drugs which may cut it short in the adult may actually drown and suffocate a child in its own secretions, and we may kill the infant with our "expectorants" forgetful of the fact that no young child ever expectorates. Linseed poultices applied to the chests of young children also require careful consideration, and I firmly believe have been responsible for a certain proportion of their deaths. The inhalation of steam must be likewise cautiously prescribed. At a past annual meeting of the British Medical Association it was desired to have a paper in the Section on Children's Diseases on "doses and drugs proper for different ages in children," but I believe no one could be found who would undertake to write it.

There are few facts which have more interest than the striking peculiarities exhibited in children's diseases, and the host of *ailments that are confined to this period of life,* are rarely seen in advanced years. The more one investigates these morbid conditions the more infinite do their distinctions become, and the more complex the questions underlying them. To enumerate these disparities accurately is a subject so large as to constitute a noble aim in any one professional life; therefore, one can here merely draw attention to it. "*Infantile paralysis,*" "*tubercular meningitis,*" "*marasmus,*" "*posterior basal meningitis,*" "*hydrocephalus,*" "*chorea,*" "*rickets,*" "*scurvy rickets,*" "*Friedreich's disease,*" and a host of others all require elucidation, and offer the most interesting field for original research.

In young infants there is *nothing too trivial to notice,* and the slightest occurrences often have the gravest import. A little discharge from one ear, its alteration, or cessation, may lead to the discovery of a cerebral abscess or suppurative meningitis. A slight change in the character of a cough in supposed enteric fever may be the first sign to tell us our diagnosis is wrong, and that acute tuberculosis has

all along been deceiving us. This I have frequently observed.

The *field of work open*, then, to the earnest student of these diseases is very large. It will occupy him for a lifetime. So much has to be learnt, and so much taught. There is no lack of material. Then in our medical curriculum what more profitable course could possibly be adopted for part of the *fifth year* than a practical study of these peculiar ailments in a well-organised children's hospital? What more interesting than to observe some familiar diseases under totally new conditions and influences, perhaps cloaking their former appearance, requiring different treatment, and to learn many serious affections which have no counterpart in the adult? To the scope of inquiry in this field there is no limit.

The chief barrier to the advance of this branch, which has sometimes led men to discard it, undoubtedly is its inherent *difficulty*. It may be regarded as one of our most obscure and difficult studies. They meet us at the threshold and many have turned back when face to face with its initial embarrassments. They are none, however, which diligence and patience will not eventually overcome. We cannot question the younger patients. We can ask them nothing. They can tell you nothing. All our stock phrases become useless. Our stereotyped methods of examination fail us sadly. The patient can describe nothing, for intelligent speech is wanting, just as in veterinary work amongst the lower animals. Infants have, however, methods of expression of their own—a "*language of signs*," as it has been termed, which must be learnt. It is most expressive when carefully observed and understood. Disease has to be sought for in every organ and locality. The patient never knows where the mischief is, and the mother or friend rarely enlightens one. The cause and seat of the malady are thus sealed from our ears, and it may have existed for weeks or months unobserved until a skilful examination on our part reveals it. A frightened child also will tell us nothing, and indeed may directly mislead one.

After these few observations on the study of these diseases one can readily form an idea of what it should require from the medical man. In the first place it requires

the *observation* to be trained up to a very high standard indeed, perhaps exceeding that necessary in other branches. This assiduous culture of observation is a *sine quâ non* to the student of children's diseases, and once acquired is of lifelong value to the possessor. In addition to this the medical examination of a sick child requires exceptional dexterity, only acquired by careful practice and training, and our examination must be more cautiously and skilfully conducted than in adults. Unless this is so, much will be missed and passed over. I do not wish to convey the idea that the examination of an adult is an easy matter, far from it, but what I do wish to say is, that however difficult the examination of a fully grown individual may be that of an infant is infinitely more so. It is no easy matter to acquire one's information from a young child, and it requires a large amount of tact.

Then another point, this study[a] is one essentially *over and above the ordinary practice of medicine.* It can be reached only through and beyond a sound knowledge of medicine. It is superadded to medicine. It is a new and complete Practice of Medicine under entirely altered conditions. No portion of medicine can be relinquished but a great deal that is fresh must be acquired. We must scrupulously train ourselves in a thoroughly new sphere. Like workers in miniature—and this is medicine in miniature—our methods must be more refined and exact, and executed with great skill and delicacy. Moreover, we must often modify our views of disease as based on the gross lesions of adult life.

Lastly, and above all, the investigation of disease amongst children if properly conducted will, I believe, be found to *teach* the practitioner and student *clinical medicine* more thoroughly than any other method whatever. It is the very best school or training ground for general practice of medicine. The examination of the organs of a young infant is not easy. Mapping out the cardiac dulness, sketching out the liver or spleen, deep examination of the abdomen, careful investigation of the nervous system

[a] I do not call it "specialty," and I most strongly condemn the word, because to no one special organ should a physician's attention ever be confined.

with its motor, reflex, sensory, atrophic phenomena, and estimating the mental condition, combine to form one of the severest tests of any practitioner's knowledge.

The refinements of skill, the great tact, the opportunities and necessities for observation, the caution required in receiving the statements of friends, and the necessity of discovering for oneself the actual state of the system from facts which are evident to one's own senses, will be of life-long value to the physician.

Again, many of our most distinguished physicians have been experts trained in the examination of sick children.

Proficiencies, then, in these diseases can be acquired only by a regular course of practical training after a thorough medical education in a well-organised children's department or hospital. It requires a large amount of patience.

Never to be in a hurry and yet to be very quick is not easy. No class of practice taxes us more, and to be successful one must cultivate it. Further, it exacts from the practitioner the most delicate sense of touch that it is possible to acquire, for a rough handling will reveal very little.

I trust sincerely the Irish School, so justly famed for clinical work, will not continue to neglect a branch of medicine so refined and interesting, but will avail itself of the wonderful educational advantages it offers to senior students of a useful and fascinating study.

I have made no allusion to the peculiarities of the surgery of childhood. It is ably dealt with by others. I have merely touched upon a most important branch of education which of late years has not received from us, physicians in this country, the attention which, to my mind, it deserves.

ART. XVI.—*Clinical Reports of the Rotunda Hospitals, for One Year, November 1st, 1898, to October 31st, 1899.* By R. D. PUREFOY, M.D. T.C.D., F.R.C.S.I. (Master); and R. P. R. LYLE and H. C. LLOYD (Assistants).

(*Continued from page 270.*)

FACE PRESENTATION.

The face presented in five cases coming under treatment in the Intern Maternity, and three of these occurred

in primiparæ. Of the remainder one was a 2-para. Two of these terminated by natural effort; two on account of prolonged delay, associated with great rapidity of the fœtal heart and respiratory movements on the part of the child, were delivered by forceps. In one of these the lower maxilla was at an early stage caught at the pelvic brim. The mouth could be felt widely open, and the anterior fontanelle was easily felt. Traction made during a pain on the superior maxilla with some pressure forward caused extension of the head and forward rotation of the chin. Two and a half hours later it was necessary to deliver for the reasons given. In the other case, that of the 2-para, the perineum had on the first confinement been lacerated into the rectum, but united on being stitched. The same amount of injury was caused on this occasion, and the result after suturing proved remarkably good. The fifth case was that of a 5-para who had had difficult labours each time previously. She had been in labour for thirty-six hours when admitted, and the presenting part was not fixed and the membranes unruptured. Version was performed, and a living child delivered soon after. None of these cases showed morbidity.

IMPACTED BREECH.

This occurred in a primipara, aged twenty-six. The breech came almost to the perineum, and was there arrested, notwithstanding strong pains for two hours. Delivery was impossible by traction with the finger, and only after very prolonged traction with a fillet of gauze. A deep wound remained in the child's groin for 10 days after its birth.

BROW PRESENTATION.

C.H., aged forty, 6-para. The condition was diagnosticated when the os was half dilated and—as it was impossible to convert it into a vertex—internal version was performed. The child was born dead owing to complete separation of the placenta.

K. M'E., aged thirty-eight, 5-para. Fully described under "Induction of Labour."

The third was in the case of a premature delivery.

PERSISTENT OCCIPITO-POSTERIOR.

We only put on record twenty-four cases—a percentage of 1·5. Of these four only, all occurring in primiparæ, were delivered with forceps on account of prolonged second stage, with signs of distress on the part of the mother. One is further recorded under "Myomata and Contracted Pelvis."

Of the remainder, two were primiparæ—one of whom had a premature child, and the second, twenty-nine hours in labour, delivered herself of a fœtus of 7½ lbs. Amongst multiparæ one had a premature child weighing 4½ lbs. The children of the rest averaged 7½ lbs., the largest being 9½ lbs., and in none was labour very prolonged. Only two children were stillborn, one being a seven and a half months' fœtus.

TABLE NO. VIII.—*Prolapse of Funis.*

Name	Age	Date	Para	Period of Pregnancy	Presentation	Child	Remarks
1. M. A.	29	Nov. 16	VII.	6 months	Transverse	A.	Podalic version
2. A. M.	27	,, 1	III.	Full term	Footling	A.	Second of twin
3. A. S.	40	Dec. 1	IX.	,,	Hand and cord	A.	Placenta prævia, *q.v.* Version
4. M. M.	26	Jan. 29	V.	,,	Vertex	A.	Replaced; 2½ hours later version
5. M. K.	23	Feb. 9	I.	,,	Footling	A.	Cord ceased pulsating during examination; rapid extraction
6. S. F.	24	June 16	II.	7½ months	,,	A.	Rapid delivery
7. M. G.	30	Mar. 2	I.	Full term	Vertex	D.	
8. K. M.	21	May 26	I.	,,	,,	D.	Forceps
9. A.M'D.	25	,, 31	I.	,,	,,	D.	Forceps
10. F. F.	35	,, 10	III.	,,	Footling	A.	
11. M. S.	35	July 11	II.	,,	Vertex	D.	Child expressed
12. J. H.	31	Sep. 3	IV.	,,	Transverse	A.	Version, *vide* "Transverse Presentations."

PROLAPSE OF FUNIS.

Many of these case are referred to elsewhere, as we state in the table. Those which we note here are as follows:—

Case IV.—First child, delivered by forceps dead, and next three, transverse presentation, delivered by version, and all still-born. She was admitted not in labour as a paying patient. When in good labour some days later the os was found to be nearly fully dilated and cord presenting, the head being above the brim. In endeavouring to replace the cord the membranes were ruptured, and the funis was then pushed up beyond the head. Labour continued strong for three hours, and the head failing to advance, internal version was performed, and a living child delivered.

Case V.—M. K. The interest of the case lies in the fact that, with both feet in the vagina, the cord ceased pulsating, while the vaginal examination was being made, and the child began to make movements. It was, therefore, delivered as quickly as possible. The child, which was born in asphyxia, recovered in Schultzing.

Case VII.—M. G. A case of early rupture of the membranes the os being only the size of a crown. The cord ceased pulsating during attempts at reposition. On account of the total escape of the liquor amnii, with only slight dilatation of the os, version was considered impracticable, and the delivery was left to nature. Some hours later it was deemed advisable to facilitate delivery by perforation, and shortly afterwards the fœtus was readily expressed. Satisfactory convalescence ensued.

Case IX.—Forceps were in this case applied for delay in the second stage, with irregularity in the fœtal heart, and it was only on very careful examination before application of the blades that the cord was felt beside the fœtal face. The child was unfortunately dead on delivery.

Case X.—The left foot presented at the vulva with the cord twisted twice round it. There was additional interest in this case from the fact that the epidermis was peeling off both feet to a considerable extent, large flakes being separated from the left one.

Case XI.—Had a battledore placenta.

TRANSVERSE PRESENTATION.

Seven cases. In one, prolapse of feet, hands, and cord; in another, hand and cord in vagina; a third was A. S.,

recorded under "Placenta Prævia." In these podalic version was performed. In one case (E. B., 4-para) external cephalic version was done, and delivery left to nature. Two cases had macerated fœtuses delivered by spontaneous expulsion. In one, both arms appeared, then thorax, then head and feet came together. This was a six months' fœtus. The second, seven months pregnant, both feet and a hand of the fœtus were in the vagina on admission.

SHOULDER PRESENTATION.

The hand protruded from the vagina soon after admission. Internal version was at once performed, and a living child delivered.

RUPTURE OF THE UTERUS.

L. B., aged thirty-four A primipara, married eight years, passed through an apparently normal lobour, lasting eleven hours, at the end of which she delivered herself of a child weighing 7½ lbs., the third stage lasting twenty minutes. Just before the birth of the child there were some severe pains, but she did not appear to be in any undue distress, and there was very little loss of blood, the uterus contracting well. Some hours afterwards the abdomen began to distend, but there was no marked tenderness, except at a spot low down on the left side of the uterus. In the evening the abdomen looked like that of an undelivered woman, but there was a normal pulse and temperature, and merely the normal amount of lochia. She had some vomiting, but as this symptom had been marked for some months before confinement, stress could not be placed upon it. Next morning, as the distension continued, an examination was carefully made for lacerations of the parturient tract. As the cervix would not admit two fingers, the cavity was explored with a Bozeman catheter without detecting any lesion in the uterine wall, though the escape of a small quantity of bloodstained fluid suggested the existence of it, and with this belief a fillet of iodoform gauze was passed into the uterine cavity. The vagina was uninjured. Hot foments, sodii bicarb. and salicylat., failed to relieve the vomiting. The patient was fed entirely by enemata. On the second evening the pulse ran up from 98 to 134, the temperature then being 99·8° F. The pulse continued up next day, with temperature 99·8° F., but at midnight it suddenly ran up to 105°F., and pulse 160, when she died, being unconscious.

Post-mortem revealed a rent in the uterine wall allowing a finger to pass into the peritoneal cavity. It was longitudinal, and began just within the os internum on the lateral wall. The uterus was well contracted. There were three pints of blood-stained fluid in the peritoneal cavity, and some lymphy deposit on the distended intestines. The stomach was chronically distended, filling nearly half of the abdominal cavity, and containing one and a half pints of green fluid.

Case II.—M. P., aged thirty-two, 9-para. September 28th, This patient gave a history of cessation of menstruation at the end of December, 1898. Fœtal movements were felt until June 15th, when she had a great fright. There were at the time severe abdominal pain and violent fœtal movements. Since that date she had felt no movements, and had been under observation at the Hospital Dispensary, and there had been no increase in the uterine tumour which remained the size of a six months' pregnancy. About 5 p.m. on the day of admission, after taking castor-oil, she had very severe abdominal pains, which had ceased on admission. Some hours later severe pains were again felt, the cervix being fully dilated and the membranes punctured; the pulse and aspect good. She was given tinct. of opium, ♏. xxx., and slept for some hours. On waking she complained of severe pain at the left side of the uterus, which was observed to be considerably smaller when it was palpated. On making a vaginal examination, the body of a macerated fœtus was found lying transversely in the vagina, and was delivered by gentle traction. The placenta soon followed, but after it came a considerable hæmorrhage, and, on passing the Bozeman catheter through the cervix, it passed into the abdominal cavity. With the finger a rent was felt in the left lateral uterine wall, through which appendices epiploicæ, passed into the vagina, could be easily felt. The uterus was lying to the right side, and was well contracted. Iodoform gauze strips were passed through the rent into the abdominal cavity after the return of the appendices, and the patient put to bed. That night the temperature was 102·5° F. Next afternoon a vaginal douche of sterilised water was given, and a portion of the gauze removed. There was a rapid fall of temperature. The gauze was completely removed on the third day, and a steady convalescence followed. She has since been seen twice, and is in excellent health.

During the year a patient was confined normally of a 7 lb. child, who was treated in a similar manner, 18 months before,

for a pretty extensive transverse laceration of the fundus, through which a coil of intestine was protruding into the vagina. She was on that occasion sent in from the Extern Maternity.

TABLE No. IX.—*Morbidity.*

Temperature	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Total
100·8° to 101·2° F.	2	4	9	-	7	4	1	-	1	5	2	1	36
101·2° to 102·2° F.	1	6	3	5	6	3	3	6	2	4	4	2	45
102·2° to 104° F.	3	4	6	4	5	4	4	3	3	4	3	1	44
104° F. and over	-	1	1	1	-	-	3	-	-	1	-	-	7
Total monthly -	6	15	19	10	18	11	11	9	6	14	9	4	132
Percentage -	5·6	11·2	14·7	9·4	14·2	7·8	7·2	6·9	4·5	8·9	6·1	2·9	8·29

SPECIFIC CAUSE OF MORBIDITY OTHER THAN SEPSIS.

Copræmia - - -	5
Bronchitis - - -	7
Abscess of hand on admission	1
Goître - - -	2
Hyperemesis - - -	1
Influenza - - -	4
Mastitis - - -	7
Phlebitis - - -	2
Phthisis - - -	2
Suppuration of hip-joint -	1
Syphilitic ulceration - -	1
Total - -	33

From the above table it will be seen that the months of lowest morbidity are October and November, and the highest from December to March. The total number is considerably smaller than last year, though there is an increase of 78 in the number of patients. The same procedure is followed as in previous years as regards sterilisation of the patients' genitals, and as in the two preceding years every patient

who is admitted, and who is still in the first stage, is given a hot bath, in which soap is plentifully used, and the head is thoroughly washed also; a very large number of the patients are not subjected to vaginal examination.

As will be seen by Sub-Table A, we have put down 33 of these temperatures as being due to some specific cause. In these a cause sufficient to produce a rise of temperature was manifest, no local treatment was adopted as far as the pelvic organs were concerned, and the convalescence proceeded satisfactorily. We have, however, counted these in estimating the percentage morbidity. Although the greater number of cases show the temperature on the third or fourth day of the puerperium, we find that no day is free from danger, and in one case which we record the chart shows a normal range until the twelfth day, after which the patient had a temperature running up to 104·4° F., and remaining high for three days. The uterus contained some *débris* which was removed with the curette.

Of the 36 cases in which a temperature below 101·2° F. was observed, 13 had some pieces of membrane in the uterus or protruding from the cervix, and had an elevation on only one occasion, occurring on the second, third, or fourth day. In 18 cases no apparent cause was found, and they were given either a vaginal or uterine douche, as a precaution, or received no local treatment. The rise here also occurred on one occasion only. One was admitted with pyrexia, and the temperature became normal on the third morning.

Four cases with a rise during the puerperium also on one occasion are classed under the sub-table, and in one case occurring on the seventh evening no cause could be assigned.

Of the 45 cases with temperature rising on one or more occasions above 101·2° F., but below 102·2° F., 13 belong to the sub-table. The majority of these had some lung condition complicating pregnancy. Several suffered from influenza, and four had slight inflammation of the breasts, which yielded to treatment. One, a 6-para, had a shivering fit on the seventh evening after a normal puerperium, and the thermometer registered 102·2° F. a short time later. She stated that the same condition had existed in each of her previous confinements. In 32 cases the removal of portions of secundines, or a vaginal douche given for

fœtid lochia, proved sufficient, and in one of these there was a puerperal ulcer. Two cases in which the patient had goître developed temperatures late in the puerperium; they received no local treatment, and made good recoveries. In several cases the uterus was found in a state of acute anteflexion, with retention of lochia. It was difficult to introduce the Bozeman catheter in one of these on account of the flexion. One patient, who had a temperature only on the sixth evening, had, after discharge, aphasia and loss of power in the right arm; she suffered from aphasia while in hospital during the previous puerperium. In several cases nothing came away with the douche. In one, at the fifth day, a mass, consisting of membranous fragments and blood clot, as large as a hen's egg, was removed from the fundus.

Among the 44 cases with temperature below 104° but above 102·2° F., 20 are placed in the sub-table. Two of these had the rise after a period of great mental excitement, in one case verging on mania. This patient had also cracked nipples, and the temperature remained up for two days. One was admitted with a sinus leading into the hip-joint, from which pus was discharging, and this leg was six inches shorter than the other. Seven had slight breast trouble; six were found to have small patches of pneumonia, and a few influenza. In the remaining case the patient was suffering from advanced phthisis.

Of the remainder, one case had extreme interest, and is as follows:—

D. M'C., aged twenty-five, 4-para, April 18th, gave a history of great pain in the left side for the past two months. She limped into hospital, holding her hand to her side. The labour was normal, and she made good progress until the third evening, when she had a rigor, and next morning temperature was 103° F. The uterus was explored. Its cavity was empty, but there was a swelling at the left cornu, which was very tender. On the fifth day there was purulent discharge from the uterus. The pus continued to flow from the Fallopian tube for ten days, gradually diminishing with a falling temperature, which on the twelfth day became normal. Some induration still existed on discharge; but patient has been seen severa times since, and is in good health.

One was sent in from a general hospital in a very emaciated condition. She had been under treatment for persistent vomiting. The membranes had ruptured, and the fœtus was macerated and decomposing. Her temperature remained normal after the sixth day. Four of these cases gave birth to macerated fœtuses. In the majority of the cases under this heading the conditions were similar to those enumerated before, and in only three did the temperature continue high for more than one or two days.

Under the last heading—viz., above 104° F.—we have 7 cases. One of these was the patient in the private ward, who was normal till the twelfth day. She was subject to fits of *petit mal.* One came in with temperature 103° F. from phthisis. One (E. L.), is recorded under "Eclampsia" *q. v.* One case of contracted pelvis, c. v., 9. cm., admitted some time in labour, but who delivered herself, developed a temperature reaching 106° F. on the ninth day. She was douched twice daily, and plugged with iodoform gauze, and went out well. One of the three remaining cases, which reached 105° F., had a rise only on the seventh evening, and nothing was found on exploring the uterus, nor was any cause found on douching the other two, but they fell to normal after the douche.

TABLE NO. X.—*Mortality.*

Name	Age	Para	Admitted	Delivered	Died	Cause of Death
L. R.	28	V.	Dec. 16	Dec. 16	Dec. 16	Pulmonary embolism
M. O'C.	29	II.	Feb. 17	Feb. 17	March 8	Sepsis
E. G.	42	X.	March 9	March 9	„ 9	Accidental hæmorrhage
M. C.	22	I.	April 20	April 21	April 24	Porro's operation
M. R.	30	I.	„ 22	Undelivered	„ 22	Eclampsia
L. B.	34	I.	Aug. 15	Aug. 15	Aug. 18	Rupture of uterus; sepsis
R. C.	34	IV.	„ 20	„ 20	„ 23	Sepsis; placenta prævia; admitted septic
A. T.	32	VII.	Oct. 10	Oct. 10	Oct. 17	Sepsis; placenta prævia; admitted septic
L. M.	43	I.	„ 12	„ 12	„ 12	Pulmonary embolism; physometra

Case II.—M. O'C. admitted to private ward, in labour. There was no vaginal examination made, and the labour was easy, placenta coming away in ten minutes without any hæmorrhage and apparently entire. On the fourth morning she had a temperature of 102·8° F., pulse 112. The lochia were excessive but inodorous. A uterine douche was given, and a polypoid excrescence was felt on the lateral uterine wall, about one and a half inches long and very firm in consistence, and which proved on microscopic examination to be placental tissue. The temperature and pulse continued high, at times above 104° F., for fifteen days, notwithstanding douching and plugging with iodoform gauze, after a preliminary curetting, and she then died. The uterus continued to involute, and at time of death was just above the symphysis.

Post-mortem examination showed œdema of lungs and incompetent tricuspid valve, with vegetations. There was no sign of peritonitis.

PATHOLOGICAL CONDITIONS OF THE NEW-BORN—ICTERUS.

From careful observations taken during alternate months during the year, this condition is not by any means rare. Our statistics show a percentage amongst the live-born children of 16·5, and during the months of June and August it rose as high as 23. It appears to be more common amongst the prematurely-born children, and it is interesting to note that on one occasion of two premature twin children only one was affected. In every case it was an evanescent condition, appearing usually on the third or fourth day, though several times as late as the seventh, and passing off in three or four days. A proportion show yellowing of the conjunctiva, but it must be admitted that it is exceedingly difficult to obtain a sight of that part of the eye in some. However in others there was no discoloration, and the only sign was a bronzing of the skin, often only of the face, and the napkins were unstained. As a rule the children are fed by the mother solely, but we have seen it also in bottle-fed infants. The children are, as a rule, put to the breast within eight hours of their birth, but it was seen in a child that refused the breast until the third day, and in this case continued somewhat longer than usual. All these children went out of the hospital well. It is our custom in these cases to administer a small dose of

Sod. phos. During one month the experiment of administering castor-oil on the second day to a considerable number of infants was tried. Of these a very small number showed signs of icterus. They show no sluggishness while it lasts, and take the breast as well as usual.

CEPHALHÆMATOMA.

This was seen in five infants, and varied somewhat in extent. In one case it was situated over both parietal bones, on one side covering almost the entire bone and on the other the posterior half of it, coming on both sides to the margin of articulation with the occipital bone, so that an apparently depressed triangle could be seen at the back of the child's head, with soft, fluctuating swellings on either side. In every case after a few days a very definite hard ridge was easily felt at the outer edge of the swelling, and a very gradual diminution of the fluctuating portion occurred. No treatment was adopted. In every case the child went out in good health, and while in hospital did not appear to suffer discomfort from the condition. Nothing was seen of any of these children after discharge.

OPHTHALMIA NEONATORUM.

Nine children showed this condition. It was in every case mild, lasting at the most four days, and appearing usually on the third day as a purulent conjunctivitis, and only on one occasion was it bilateral. One of these children was directly infected from the mother, who came into hospital with purulent conjunctivitis with in-growing lashes. After these were epilated she soon recovered. The prophylactic treatment of introducing ♏. ii. of a 1 per cent. solution of argent. nit. into each eye of every infant immediately after its birth is still continued, and if any signs of puffiness of the lids occur afterwards, the eyes are thoroughly cleansed with boric lotion, repeated as often as any accumulation occurs, and, in addition, argent. nit. 2 per cent., is used twice daily if the condition is anything but the mildest.

IMPERFORATE ANUS

This infant was otherwise deformed. There was a fluid swelling the size of an orange over the buttocks; the right leg was shortened and atrophied, the femur being dislocated on to the iliac bone, the leg being completely everted. The child, which was premature and was born alive, died on the second day.

INTERNATIONAL CONGRESS OF MEDICAL ELECTROLOGY AND RADIOLOGY.

At the request of the French Society of Electro-therapy and Radiology, the International Congress of Medical Electrology and Radiology, the initiative of which it has taken, is to take place in connection with the International Congress of 1900. A committee—which is composed of Messrs. Weiss, Professor at the University of Paris, President; Apostoli and Oudin, Vice-Presidents; Doumer, Professor at the University of Lille, General Secretary; Moutier, Secretary; Boisseau du Rocher, Treasurer; Bergonié, Professor at the University of Bordeaux; Bouchacourt; Branly, Professor at the Catholic Institute of Paris; Larat; Radiguet; Villemin, Surgeon of the Hospitals of Paris—has been appointed to arrange the organisation of the Congress, which will take place in Paris from the 27th of July to the 1st of August, 1900. All inquiries for further information should be forwarded to Prof. E. Doumer, General Secretary, 17 Rue Nicolas-Leblanc, Lille. Those who wish to join the Congress should communicate with Dr. Moutier, 11 Rue de Miromesnil, Paris.

CARBONIC ACID GAS IN HEART-DISEASE.

W. Ewart (*Medical Record*, September 9th; *Medical Times*, December) says that mitral stenosis and pain are greatly relieved by the inhalation of carbonic acid gas for thirty seconds, the patient's bowels to be kept very free and the use of cardiac tonics to be restricted. There is not only a relief of pain, but greater freedom of respiration, with an improved state of the pulse and the appearance generally. Carbonic acid gas acts as an anæsthetic, and also as a stimulus to the muscles of respiration, and a continued use of the inhalations has the effect of gradually removing the dilatation. By the ordinary treatment it is difficult to influence mitral stenosis, but carbonic acid gas has always improved and often restored the patient to a condition of comfort.—*New York Medical Journal*, December 16.

PART II.

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

Transactions of the Royal Academy of Medicine in Ireland. Vol. XVII. Edited by JOHN B. STORY, M.B., F.R.C.S., General Secretary; Surgeon to St. Mark's Ophthalmic Hospital, Dublin. Dublin: Fannin & Co., Ltd. London: Baillière, Tindall & Cox. Edinburgh: James Thin. Bristol: John Wright & Co. 1899.

THIS seventeenth volume of the "Transactions" of our Royal Academy of Medicine in Ireland includes 683 pages—a marked advance on the usual bulk of its predecessors, showing that the vitality of the institution of which it represents the activity is still progressing upward and onward. And, accordingly, we must express the opinion before going farther—however regretful the necessity may be to us—that the contents of this representative volume might, with decided advantage, have been presented to the professional public in a costume more worthy of their intrinsic value. Binding, paper, and type, might well be improved upon; we can now only hope and pray that they will be in the next issue.

The "Section of Medicine" contains a very interesting case of "Acute Hæmorrhagic Ascites," by Dr. J. M. Finny, and "Chyluria," by Dr. H. T. Bewley, follows in order. A very remarkable history of "Innominate Aneurysm," by Dr. James Craig, will bear comparison, in clinical interest, with any case of the kind we have found recorded. A very carefully prepared paper on "Morphinomania," by Dr. H. C. Drury, discusses the history, symptoms, and possible remedies of this social plague. Among the most noticeable of the other communications in this Section is one on "Three Cases of Diabetes Insipidus," by Dr. J. Lumsden. It closes with a paper on "The Clinical Features of Beri-beri," by Conolly Norman, F.R.C.P.I.—a most instructive communication, profusely illustrated, which bears the highest testimony to

the professional devotion, keen powers of clinical observation, painstaking research, and high literary as well as scientific attainments of this accomplished alienist.

The "Section of Surgery" opens with a "Presidential Address" by R. L. Swan, P.R.C.S.I. There are ten other items. Among them are excellent practical papers on "The Operative Treatment of Hernia," by J. S. M'Ardle, F.R.C.S.I.; and "Dislocations and Fractures of the Astragalus," by Henry Gray Croly, F.R.C.S.I. They are not for criticism: they should be carefully mastered by every practising surgeon. Dr. J. Knott undertakes—with great confidence, and with a mastery of his subject which would probably prove extremely unpleasant to an opponent—to explode the current views on "Hey's Internal Derangement of the Knee-joint." Mr. Lentaigne, the Secretary of the Section, contributes an extremely interesting "Case of Chronic Intestinal Obstruction, treated by Formation of Intestinal Fistula, with subsequent Excision of Cæcum and portion of Ileum."

The "Section of Obstetrics" is well represented; the communications by Drs. A. Smith, Purefoy, and More Madden can well be relied upon to maintain the high reputation of our Dublin School in this important department. There are seven papers in this Section, the last being a very important and interesting one, bearing the title of "Notes on a Successful Case of Cæsarean Section," by Dr. F. W. Kidd.

Twenty-two important items are collected under the heading of "Section of Pathology." The subject of aneurysm is well in evidence—very interesting cases are recorded by Drs. Lumsden and W. J. Thompson. There are five communications by Dr. E. J. McWeeney, each and all of which are characterised by the scientific accuracy and clearness of diction of that accomplished bacteriologist. The President of the Royal College of Physicians of Ireland contributes a valuable and interesting paper on "Enteric Fever fatal through Embolic Hemiplegia;" and the President of the Royal Academy of Medicine describes a case of the rare condition of "Dislocation of the Metatarsus." His communication includes descriptions of two cases—in one, all the bones were dislocated, the direction of displacement being upwards and outwards; in the other, the bases of the first,

second, and third metatarsals were displaced downwards into the sole of the foot. Examples of such excessively rare displacements have a special value when communicated, as these have been, by one who is probably the highest living authority on the pathology of the human skeleton.

The "Section of State Medicine" is represented by seven papers, all of which are individually worthy of attention in this age of the rapid advancement of Preventive Medicine.

The "Section of Anatomy and Physiology" includes three papers of very considerable scientific interest, and each displays very careful research. Thus concludes an important annual, whose dress and outfit we anxiously hope may be improved by next season.

An American Text-book of Surgery, for Practitioners and Students. By PHINEAS S. CONNER, M.D.; FREDERIC S. DENNIS, M.D.; WILLIAM W. KEEN, M.D.; CHARLES B. NANCREDE, M.D.; ROSWELL PARK, M.D.; LEWIS S. PILCHER, M.D.; NICHOLAS SENN, M.D.; FRANCIS J. SHEPHERD, M.D.; LEWIS A. STIMSON, M.D.; J. COLLINS WARREN, M.D., and J. WILLIAM WHITE, M.D. Edited by WILLIAM W. KEEN, M.D., LL.D., and J. WILLIAM WHITE, M.D., Ph.D. Third Edition, thoroughly revised. London: Rebman, Limited. Philadelphia, U.S.A.: W. B. Saunders. 1899. Pp. xvi. and 1228.

THIS representative work is issued in two well-printed, well-bound, well-illustrated, and extremely prepossessing volumes. Nothing gratifying to the sense of sight appears to have been omitted. The fact that it has reached a third edition in a comparatively short space of time makes its presence in the scientific literature of the period a matter of special importance, and must have the effect of making every true lover of his profession particularly anxious that its teaching should be throughout in perfect accord with the results of the rapidly progressive investigation which so eminently characterises the march of events towards the dawn of the twentieth century.

In proceeding to notice some points which should receive attention in a subsequent issue of this work, we will begin

with the very ordinary subject of fractures. Diagnosis and treatment in the more usual forms of fracture hardly require criticism in the present state of our knowledge; but the more obscure forms of this lesion still remain, perhaps, as much in need of enlightenment as any of the other injuries which call for the attention of the surgeon. On page 315 separation of the lower epiphysis of the humerus is discussed—and dismissed—in a very few words. We are told that "the lower fragment usually comprises the entire epiphysis, which is composed of several distinct pieces; but it is possible that either or both epicondyles may remain attached to the upper fragment." The writer of this sentence does not seem to be aware that the epiphysis forms no part of the lateral prominence of the external epicondyle—at any date. With regard to the internal epicondyle, the relationship is somewhat more complex. The epiphysary plate of cartilage—always a very thin layer—forms in childhood a part of the prominence of the inner extremity of the lower end of the humerus. About puberty the portion destined for the formation of the inner epicondyle becomes gradually drawn away—as it were—from the rest. A special centre of ossification is devoted to this epicondyle: three others are formed in the breadth of the rest of the epiphysary lamella. The effect of this anatomical arrangement is that separation of this epiphysis in childhood means detachment of a thin articular lamella at the lower end of the bone, with slightly diminished prominence of the internal condyle, and none of the external. After puberty—and when the centre for the internal epicondyle has been detached from the rest—the epiphysary lamella at the lower end of the humerus is separated without any diminution of the prominence of either condyle; and, as there is but slight displacement and slight crepitus, the injury was frequently mistaken for partial dislocation, or even for slight contusion. Of course, skiagraphy has—at least in metropolitan practice—reformed all that in our day.

Colles's fracture, we are told (page 318), "is transverse, but may be oblique in either direction." This is decidedly too indefinite a description of the plane of solution of continuity in a lesion which is usually so typical as to be amenable to diagnosis as the surgeon rides by the injured individual "on

a high-trotting horse." Everyone who is at all familiar with osteal pathology knows that the plane of separation in Colles's fracture is nearly always from below and front upwards and backwards.

In dealing with treatment of patellar fractures, Barker's method is described with special favour. Pott's fracture is placed, "in a typical case," "about three inches above the tip of the malleolus," and accompanied by "one of the internal malleolus, and one of the outer lower edge of the tibia." *Dupuytren's fracture* and *Adams's fracture*, both also of the lower end of the fibula, are allowed to pass unnoticed.

In dealing with the knee-joint, we are gravely told (p. 459) that "either semilunar cartilage may be detached at either end or peripherally, and displaced towards the intercondyloid notch or to the outside, or it may be lacerated." We are afterwards informed that the symptomatic "locking of the joint can be relieved without much difficulty by various manipulations." If the cartilage is torn, how can relief be afforded by mere manipulation? "The internal cartilage is the one more commonly affected." All surgical writers agree on this point. But will *any* surgeon, who is also an anatomist, as *every* surgeon should be, believe that a healthy internal semilunar fibro-cartilage of the knee-joint can have its cornual extremities detached, or be "displaced either towards the intercondyloid notch or to the outside," without such extensive laceration of adjacent tissues as to render any sudden relief or restoration of function impossible? Yet all "authorities" note the sudden relief. The writer truly observes that "attention has been especially directed to the injury of late." In the next edition of this work we hope to meet with the results of an appreciative examination of the recent literature of the subject.

Other items might be easily selected at random from the same much be-written domain of surgery. For instance, we are told that fractures of the inferior maxilla are usually situated in or near the median plane. We have no experience of the American form of this accident, but it is certainly not so as found among the inhabitants of the Old World. The ever-repeated misstatements of the usual very reliable

Malgaigne, that fractures of the body of the scapula are always due to direct violence, is found here. The fact is that this fracture, which is usually located in the infraspinous fossa of that bone, is nearly always the result of violence applied to the spine—posterior border, of course—and, accordingly, of as indirect application as the form of the bone can well admit.

Lest we should exceed the allotted limits of space, we will reserve further criticism for the next edition, before the issue of which we would suggest that the authors should place themselves in more intimate touch with the surgical literature of Europe, and more especially with that of Ireland.

Saint Thomas's Hospital Reports. New Series. Edited by Dr. Hector MacKenzie and Mr. G. H. Makins. Vol. XXVII. London: J. & A. Churchill. 1899.

The present Annual Report of this great hospital commences, as usual, with the departmental Reports, principally consisting of tables of statistics which, though full of valuable information, are too rarely read. Some idea of the immense amount of good work done in the institution may be formed when it is known that 6,140 patients were admitted during the year 1898. Of these 61·67 per cent. were cured; 21·69 per cent. were relieved; and the death-rate, including operations, was only 8·66 per cent. The lay mind might, however, be more impressed by the fact that the number of fractures treated during the past ten years was 10,410 cases, and dislocations amounted to 1,207 cases.

Following the Reports come the contributed papers which form so excellent a feature in the annual volume. The first paper we find is Mr. Wallace's, on the "Surgical Technique in St. Thomas's Hospital, 1899," from which we are glad to see that asepsis is obtained by soap and water. "It is impressed on students and nurses that a perfunctory dip in a chemical is of no value, and in order to clean the hands they must be washed with soap and water." It is pleasant to read:—"Solutions of perchloride of mercury, carbolic acid, &c., are kept in the theatre, but their use is not nearly so frequent as formerly. Flushing of clean wounds is getting rarer and

rarer, and even when done the agents employed are nearly always sterilised water or saline. In fact, the use of chemicals to wounds is almost a thing of the past." So the mania for antiseptic chemicals is dying out, and the tram-car will no longer be malodorous from iodoform and the ill-smelling chemicals that mechanical surgeons hoped in to the exclusion of brains. "Ventral Hernia" is a short but useful, practical paper by Mr. Battle, and is followed by Mr. Wagstaffe's contribution, "Do we Vary in Weight at Different Times in the Day?" in which occurs the following statement:—"Among the notes which I took when I was house-surgeon is a series of observations on body-weight at various times in the day. This was a curiosity to me at the time, but I am surprised to find it is probably more than a mere curiosity, for I cannot lay my hands upon any similar record. Many friends whom I have consulted upon the subject are equally in the dark about such observations occurring in any text-book." And again he writes:—"It reminds one rather of the famous fallacy, said to have been submitted to the Royal Society, asking why a fish could be put into a basin brimful of water without making it run over."

Had Mr. Wagstaffe read Santorini's elaborate experiments conducted on himself, or even the brief account of them given by Sir John Sinclair in his "Code of Health," in which Santorini is depicted being weighed, or even Bostock's reference, he would have been able to have enlightened his friends, and made known to them that "there were strong men before Agamemnon." He is also unhappy in his second reference. Charles II., with all his faults, was a wit, and finding on the occasion of a memorable visit of his to the Royal Society that the members were engaged on very trivial subjects, proposed to them the solution of the problem:—Why does adding to a basin of water brimful a live fish not cause the water to overflow, or increase the weight of the whole, though the addition of a dead fish to the water does? A little time devoted to the old authors would have prevented Mr. Wagstaffe from claiming the credit due to others long dead, and, as it seems, forgotten.

"New Growths of the Œsophagus" is a valuable paper

from Mr. Perkins—one of permanent value. "Æsculapius and his Sanctuary," by Dr. Colman, is a very readable paper, but more suitable for a lay magazine than the pages of a medical annual; withal it comes as an oasis in the great desert of medical literature. "Cancer of the Uterus," by Dr. Tate, is just such a paper on the diagnosis of cancer as may be met with in any text-book; why it found a place in the Reports we cannot say. The author tells us that during "the past five or six years" Dr. Cullingworth "handed over all cases of uterine cancer to his care." He is right to thank so good a friend, but why obtrude personal friendships on the readers of the Reports? Dr. Cullingworth follows with an account of a new perineal operation; it is elaborate, and we cannot see that it is any improvement on Mr. Lawson Tait's.

The Medical Annual and Practitioner's Index. A work of Reference for Medical Practitioners. Eighteenth Year. Bristol: John Wright & Co. 1900.

EIGHTEEN years finds this excellent Annual growing in favour with the medical profession. Its articles are practical and well abreast of the latest views on the subjects of which they treat. The arrangement of each section is alphabetical, and this aid to finding information quickly is supplemented by a good index. New remedies are dealt with, as before, by Dr. Murrel, whose name is familiar to all students of pharmacology. He has hit the happy mean of giving enough to make his articles intelligible, and avoiding all unnecessary matter. The article on supra-renal extract might, however, have told of its hæmostatic properties, and of its beneficial effects in some forms of asthma, though it may fairly be said that its local application in surgery points rather to its being included in the article on operations; and of its action in cases of asthma we know so little that we had better wait for information on the subject before writing of it. In the valuable article on toxins we find no mention of Dr. Galeotti's article, "I Sieri Specifici" (*Lo Sperimentale*)—a good summary of our existing knowledge. It is, however, quite possible that the article was in type before Dr. Galeotti's could be

availed of. Radiography in 1899, by Dr. Wolfendem, is an addition to the Annual that is very welcome, and of more than usual interest at present, on account of the usefulness of the radiograph in military surgery. Mr. Gardiner contributes the article on anæsthesia, and we cannot speak too highly of the sound advice he conveys. His reference to Mr. Alfred Coleman's inhaler is most interesting; and, though we believe it is the independent outcome of Mr. Coleman, nevertheless it was recommended as far back as 1861 by Dr. Julian Chisholm, of Maryland.

Part III.—Miscellaneous—is valuable from Mr. Cooney's "Legal Decisions." It was such cases made Beck's Jurisprudence so valuable as a text-book, and causes it to be still so prized as a book of reference.

Wright's Annual reflects credit on all the editors, sectional and general. It is a valuable summary of the medical progress of the year, classified and arranged to facilitate reference; and not the least valuable parts are the annotations and criticisms of the sectional editors—all of whom are distinguished specialists, capable of criticising and worthy of attention when they write on their specialty.

A Manual of Surgery. By Charles Stonham, F.R.C.S. Eng.; Senior Surgeon to the Westminster Hospital, &c. In three volumes. London: Macmillan & Co., Ltd. 1899.

The first volume of the above work deals with general surgery, and if we were to single out of an extremely practical volume any chapters for special notice we would at once select those on inflammation, tumours, and venereal diseases, the last being exceedingly good, particularly that part of it dealing with congenital and acquired syphilis, in which the author has shown that he spared no pains in placing a good description of the many lesions produced by this disease throughout the system, as well as all the latest forms of treatment, before the reader.

In the section dealing with the local infective diseases there occurs, under the treatment of carbuncle, the statement that "Incisions are undoubtedly beneficial if tension and pain were great. Some surgeons recommend these

being followed by removal of the slough with the sharp spoon, but this is rarely advisable, being a rather more severe procedure than the patient's condition warrants." We are of opinion a great many surgeons will think differently, and consider that, unless the carbuncle be extremely small, the safest procedure to adopt for the patient is free removal, with the sharp spoon, of the entire slough, and subsequently swab the tissues thus exposed with pure carbolic acid, while even this treatment for small carbuncles will considerably curtail the length of time the patient will require surgical attention.

Volume II. deals with injuries. The first chapter is devoted to antiseptics. In it we note that the inclination of the author lies towards antiseptic operations and dressings rather than towards the preferable procedure in which irrigation is carried out with sterilised water or salt solution, and the dressings are confined to sterilised Gamgee, from which, in a well-regulated hospital, where we can rely on asepsis being fully carried out, results are obtained which will compare favourably with those obtained by the use of antiseptic irrigation and moist antiseptic dressing applied over the wound, as these, in our experience, produce too much inflammation, and thus tend to prevent speedy union; still, for general practitioners who, when operating in places in which they cannot rely on complete asepsis, this antiseptic method is certainly to be recommended, and doubtless this is the author's idea.

The chapter on shock and collapse is a good one, but we notice one important omission—viz., the use of strychnin in the treatment—a drug which, we believe, has been generally found to be of great efficacy.

In the chapter on fractures we fail to see what advantage Barker's method of treatment for fractured patella has over that of Lord Lister, for in both the joint is opened, while we doubt very much whether rubbing the broken surfaces together, as recommended in the description of this operation, will ever get rid of the curtain of fibrous tissue which lies between them and prevents bony union. Consequently, it would seem to us, it presents no advantage over that of Lister, but it has the disadvantage of exposing the patient to

all the risks of opening a large joint without the certainty of obtaining bony union, and leaving permanently in the articulation a piece of wire which may excite inflammation in the joint during its subsequent movements.

There is only one other point to which we would direct attention in this volume—viz., the description of a Dupuytren's splint being "simply a short Liston," which means that it is provided with two holes at the top and two notches below, whereas the real Dupuytren's splint has neither holes nor notches, such as we see figured in almost every text-book we look at.

Volume III. deals with the surgery of special regions. Again, if we were to single out any special section in this volume as well worthy of note we should unhesitatingly select that one on abdominal surgery, which is thoroughly practical on every point. In it we are glad to see the author recommends laparotomy as soon as the diagnosis of acute intestinal obstruction is made, "every hour in delay increasing the patient's risks."

There is one important omission in the work, and in the second edition, which we expect will soon be called for, we would suggest the inclusion of a chapter on anæsthetics, which will make the book complete.

We congratulate the author on his success in placing before the student and practitioner a work beautifully written, readable, and thoroughly practical.

The defects mentioned above only slightly mar an otherwise excellent work. The book is published in three volumes of handy size, is well printed, and plentifully supplied with plates.

Mock-Nurses of the Latest Fashion, A.D. 1900. Professional Experiences, in Short Stories, and the Nursing Question. By Frederick James Gant, F.R.C.S. London: Baillière, Tindall & Cox. 1900.

A friend to nurses and as such, Mr. Gant wrote his book. We fear, however, that he has not sufficiently marked the distinction between the women he would condemn and the women we all respect. The volume tells of women masquer-

ading as nurses, and as such finding their way into private houses to the injury and annoyance of the patient and his friends. The subject requires very careful handling, and, on the whole, it might be better to leave the women he condemns to the care of the police authorities, who may be trusted to deal with them as effectually as they did with the "massage" establishments in London. We respect the author's aims, and we approve the spirit that actuated him, though we cannot commend the method in which it was carried out.

Minor Surgery and Bandaging. By HENRY R. WHARTON, M.D.; Demonstrator of Surgery in the University of Pennsylvania; Surgeon to the Presbyterian Hospital, &c. Fourth Edition. London: Rebman, Ltd. 1900.

IN the preface to the fourth edition, into which this manual has already run, the author points out that it includes a new chapter on surgical bacteriology, as well as a new section on operative surgery, such as, he says, can be practised with advantage upon the cadaver. The chapter on bacteriology is well written, concise, and easy of comprehension by even junior students, but we are doubtful as to whether the descriptions given of the various operations would be of much utility in assisting students who had not previously done operative surgery on the cadaver.

While up-to-date in many respects, we should like to see some changes introduced more in keeping with our advance in the treatment of wounds. To state that a deep wound made aseptically should be drained may, under certain circumstances, be sound; but to say that, after inserting a tube and applying antiseptic dressings, unless the temperature rises the wound should not be looked at for ten days, when the "tube may be removed," is not, at any rate, in accordance with our practice, in which a tube, if inserted into a recently-made aseptic wound, would not be left in for more than 48 hours, as its presence after that time only prevents union. Again, in amputation through the thigh the author recommends the use of one or two drainage tubes, combined with "thorough flushing out of the wound with 1–2,000

perchloride of mercury lotion," and this to be followed by the application of a "rubber protective dressing over wound, with moist perchloride of mercury gauze dressings," &c. The dressings are not disturbed for ten days, when irrigation through the tubes with perchloride solution may be done before their removal. This seems to be more in accordance with the practice adopted in the earlier antiseptic days than in that of the present time, in which the aseptic treatment is adopted, with the result that, in such a case as that above mentioned, the wound would be absolutely healed and the patient about on crutches at the end of ten days. Another illustration is the advocacy of Carron oil as a dressing for burns, which is stated to require "frequent renewal on account of its rapid decomposition."

These are a few of the points to which we should like to draw attention for rectification in a subsequent edition, and, if we might suggest it, the inclusion of a chapter on urinary surgical emergencies, even at the expense of the section on operations, would enhance the value of the book.

The publishers are Messrs. Rebman, Ltd., who are to be congratulated, as usual, on their good printing, the clearness of the numerous diagrams, and excellent binding.

Un Nuovo Rimedio contro l'Epilessia. L'Antilessia del Battista.

This pamphlet is simply an advertisement for a secret remedy, which Signor Battista would have us believe is capable of curing all forms of epilepsy. Like all such advertisements that come our way, it was thrown into the waste-paper basket.

Bulletin of the Harvard Medical Alumni Association. No. 14 Catalogue. Boston: Published by the Association. 1900.

This long Catalogue of the alumni of this great University of Massachusetts, telling that they are to be found in all lands from China to Peru, is of deep interest to every thoughtful reader. It recalls that memorable 11th of

December, 1620, when the "Mayflower" and the "Speedwell" landed the English Puritans—God-fearing, right-living men, who prized education, and were determined, amidst their privations and hardships, which were many and great, that their children should be educated. Under the rule of Miles Standish they taxed themselves to half their income for education. They were of the stock of Shakespeare, Milton, Johnson, Marlow, Tyndale, Beaumont, Fletcher, Webster, Sydenham, Bacon, Willis, Wiseman, and Locke. Men who had come from Leyden, where they saw "the great deliverance" celebrated and commemorated by building a University. To join them, in 1637, came the young Southwark Puritan, fresh from Emmanuel College, Cambridge; and it is significant of his love of literature that he brought with him his library. He had heard of the courage of Miles Standish—that great leader who still lives in memory for his piety and learning—and had read Bradford's noble appeal to the colonists—"Let it not be grievous to you that you have been instruments to break the ice for others. The honour shall be yours to the world's end." John Harvard arrived in time to share that honour. His dying gift in 1638—for the cold and hardships endured in the colony ended his days quickly—of all his money (£800) and all his books (300), supplemented by the £400 raised in taxes by the settlers, laid the foundation of the Harvard University, "to the glory of God and the promotion of knowledge." And the honour is theirs to the world's end.

Anæsthetics; their Uses and Administration. By DUDLEY WILMOT BUXTON, M.D., B.S. Third Edition. London: H. K. Lewis. 1900.

DR. BUXTON'S text-book quickly became a favourite, and already has reached a third edition. The additions to the present edition are descriptions of methods of giving nitrous oxide in combination with oxygen, ether in combination with oxygen, Dr. Flux's open method of giving nitrous oxide, Schleich's solutions for general anæsthesia, the infiltration method for producing local anæsthesia,

Bier's method of intrathecal cocaïnisation, and the methods recently introduced for prolonging anæsthesia under nitrous oxide; though he unaccountably makes no mention of the most recent and perhaps most valuable local and general anæsthetic chloretone.

The book is intended for students, and is possessed of many good points. We are very favourably impressed with the instructions for the preparation of the patient, and soforth. But from start to finish the author cannot get rid of his bias against chloroform. He writes of the "so-called" ether-pneumonia, and devotes a page to the exoneration of the anæsthetic; he notes that cerebral hæmorrhage has occurred after etherisation, and tries to minimise a fact so damaging to the drug. And he makes no mention of insanity as an after-effect, although such cases are well known.

In the statistics of the percentages of deaths from the different anæsthetics, some statistics that tell in favour of chloroform are not included. In the administration of chloroform he writes—"A piece of ordinary lint, 20 inches square and folded in four, so that the fluffy side is inwards, serves well for the exhibition of chloroform, which should be freely poured on it." Nothing could be more calculated to poison a patient than the drug when so administered. Nothing short of a miracle could save such a patient from death. Let any of our readers fold the lint as directed, and pour chloroform freely on it from a measure-glass, and they will be astonished at the amount absorbed by the lint. And then think of a patient trying to breathe under such a death-dealing mask. The four folds of saturated lint allow almost no air to pass, the patient struggles, takes deep breaths, and before the anæsthetist knows where he is the patient is dead!

More pernicious teaching cannot well be imagined. It is inexcusable, for a look over back numbers of the principal weekly medical journals would have shown the author that the majority of deaths under chloroform given by the open method are due to the use of lint. A single fold of thin stockingette is safe; it insures a free admixture of air, and there is not a thick saturated cloth of chloro-

form pouring its heavy vapour into the patient's lung. We think that a regard for public safety requires that the author have an inset in each volume of his book, warning the reader against following this fatal advice.

The recommendation of mixtures is, we think, not warranted by our present knowledge of how the different anæsthetics act. Such mixtures have all the sickening effects of ether, the dangers of ether and chloroform, and none of the special properties of either. They are the refuge of the weak-kneed; the trust of those who will not learn, and fear to appear ignorant.

We are glad to see that at last the author acknowledges how deeply indebted he is to Mr. Foy for his historical knowledge of anæsthetics.

Diseases of the Eye. A Handbook of Ophthalmic Practice for Students and Practitioners. By G. E. de Schweinitz. With 255 Illustrations and two Chromolithographic Plates. Third Edition. 4to. London: Rebman, Limited, 1899. Philadelphia, U.S.A.: W. B. Saunders. Pp. 696.

The author, in his preface, states that the book was written in the hope that it might prove of service to students and practitioners who desired to begin the study of ophthalmology. The subject-matter has been given in greater detail than is customary in books written for students.

The third edition has been revised in all parts, rewritten in some, and paragraphs dealing with the following subjects have been added, viz.:—Favus of eyelids, blepharochalasis, Koch-Week's bacillus conjunctivitis, pneumococcus conjunctivitis, diplo-bacillus conjunctivitis, Parinaud's conjunctivitis, pneumococcus infection of the cornea, mixed infection of the cornea, schizomycetal infection of the cornea, oyster sucker's keratitis, fugaceous periodic episcleritis, Röntgen rays for detecting foreign bodies in the vitreous, retinitis striata, hereditary optic nerve atrophy, &c., &c. Many new illustrations have also been added.

The volume is nicely got up, the print is good, and the editing is very creditably done.

On the whole, the subjects are treated in a satisfactory manner, though there are many points which are not in accordance with our views. The author doubts the propriety of using jequirity under any circumstances. In treating of tarso-cheilo-plastic operations, sutures in the flap are condemned as worse than useless. With this we cannot at all agree. No mention is made of the value of Snellin's clamp in this operation, but we are told to wait for the bleeding to cease; and sutures are passed through the folds of the skin on the upper lid to keep the wound gaping and prevent the lid from closing for 24 hours. This is an altogether antiquated and cumbersome method of performing the operation. The use of a proper clamp and fine sutures into the flap makes the question of hæmorrhage of no importance, and greatly facilitates the performance of the operation. They also obviate the necessity of keeping the skin sutures in the lid at all, thus saving much discomfort to the patient.

In the treatment of lachrymal stenosis we do not think he has quite grasped the great advantages of leaden styles, nor is any mention made of teaching the patient to remove and insert the style himself—a method which has been found of the greatest advantage.

Although many of the sentences are long and involved, the style is, on the whole, readable enough, and Americanisms are not objectionably frequent. We can safely recommend the work as a sound, full, and trustworthy account of the present state of ophthalmology, and a good practical work for the use of students and practitioners.

The Health Resorts of Europe. A Medical Guide to the Mineral Springs, Climatic, Mountain, and Seaside Health Resorts, Milk, Whey, Grape, Earth, Mud, Sand, and Air Cures of Europe. By Thomas Linn, M.D. Seventh Year. London: Henry Kimpton & Hirschfeld Brothers. 1899.

This contains, in short paragraphs, the chief facts concerning nearly all the European Health Stations, Ireland, however, being carefully omitted. As the Queen has

sought the Phœnix Park as a Spring resort it is probable that in his next edition Dr. Linn will re-discover Ireland.

The Murmurs of Mitral Disease. By EDWARD M. BROCKBANK, M.D., M.R.C.P.; late Resident Medical Officer Manchester Royal Infirmary. With five Illustrations. Edinburgh: Y. J. Pentland. 1899. Pp. 46.

THE title of this book is somewhat of a misnomer; it really is a discussion on the causation of the so-called præsystolic murmur in mitral narrowing. Dr. Brockbank believes that in this form of heart-disease the crescendo murmur, which is heard immediately before the first sound, and which ends therewith, is due to a regurgitation of blood backwards from the ventricle into the auricle. He holds that the ventricle begins to contract gradually, and that the commencement of the "præsystolic" murmur is practically synchronous with the commencement of the ventricular contraction. The segments of the mitral valve are thickened and stiff in mitral narrowing, and it is not until the blood-pressure in the ventricle has risen to a considerable height that the valve segments close. During the space of time that elapses between the commencement of ventricular systole and the closure of the stiffened valve regurgitation occurs, which, in Dr. Brockbank's view, is the means whereby the "præsystolic" murmur is produced. He has devised several experiments with tubing which illustrate and explain his views; these experiments are described in the book.

Dr. Brockbank has failed to convince us. He admits that the early diastolic murmurs of mitral narrowing are due to the obstruction the blood meets with during its flow from the auricle into the ventricle, and he admits that this murmur sometimes runs on without any break into the true præsystolic murmur. It seems to us impossible to suppose that during the first part of this prolonged murmur the blood is flowing from the auricle to the ventricle, but that during the second part it is flowing in the opposite direction, and that the change has occurred without the slightest break in the continuity

of the sound. He also quite fails to explain why this "præsystolic" murmur—in his view a regurgitant murmur—is heard in a position so different from that in which most other regurgitant murmurs are heard. Why, too, we may ask, is ordinary mitral regurgitation so rarely accompanied by a thrill, while in this form (in Dr. Brockbank's view) of regurgitation thrills are so common?

Mr. Y. J. Pentland has treated us generously in this work. In addition to 46 pages of text, he has presented us with 32 pages of advertisements.

WORKS ON VACCINATION.

1. *A Report on Vaccination and its Results, based on the evidence taken by the Royal Commission during the years 1889–1897.* Vol. I. The Text of the Commission Report. London: The New Sydenham Society. 1898. Pp. 493.
2. *Vaccination: its Natural History and Pathology.* Being the Milroy Lectures for 1898, delivered before the Royal College of Physicians of London by S. Moncton Copeman, M.D., Cantab., M.R.C.P.; Medical Inspector to Her Majesty's Local Government Board; Lecturer on Public Health in the Medical School of Westminster Hospital, &c. London: Macmillan & Co. 1899. Pp. 257.

1. The New Sydenham Society has thought it advisable to publish the Proceedings and Reports of the Royal Commission on Vaccination. The subject is to be dealt with in two volumes. That before us contains the Report of the Commission, the Minority Report, and some Appendices, showing the death-rates from small-pox during the years 1848–1894.

The second volume is to contain extracts from the evidence given before the Commission.

The work will be found useful by all those who are making a study of the subject.

2. This is a very well written book, and gives an excellent account of its subject.

After an interesting historical account of the subject, Dr. Copeman discusses the relationship of variola and vaccinia, and concludes that vaccinia is variola modified by passing through a number of cattle. When a calf has been variolated, and from it a series of inoculations have been carried out through a number of calves, the final result, after a greater or lesser number of removes from calf to calf, has been invariably the same—namely, a local vesicle is produced, which, by no means at our command, is distinguishable from true vaccinia.

In the next chapter there is an interesting account of the bacteriology of vaccine lymph. In addition to the many microbes which have been found in lymph, but which are only accidentally present, Dr. Klein, in 1894, discovered some extremely small bacilli in lymph from immature vesicles. Dr. Copeman succeeded in growing these bacilli in a hen's egg, and they, when inoculated on calves, and subsequently on children, gave typical vaccine vesicles. The bacilli refused to grow on any of the ordinary culture media.

Another important section is that on glycerinated lymph. The author shows that lymph, when mixed with a mixture of equal parts of glycerine and water, keeps its vaccine powers unimpaired, while, after about four weeks, all adventitious organisms have died out. A number of photographs of culture dishes containing growths of ordinary and of glycerinated lymph show strikingly the enormous numbers of microbes in the former and their absence in the latter.

Dr. Copeman has done much work in connection with vaccination, and his book takes a high place in the literature of the subject.

Transactions of the Pathological Society of London. Vol. XLIX. London: Smith, Elder & Co. 1898. Pp. 418.

We are glad to see that the Pathological Society continues to flourish. At the time of the Report there were 678 members on the roll of the Society.

In this volume one of the most valuable features is the

number of papers on acromegaly and on morbid conditions of the pituitary body. Drs. Furnivall, Neall and Smith, Shattock, Rolleston, Dalton, and Hunter, all exhibited specimens of this form of disease; their papers are illustrated by plates and drawings of microscopic preparations. Dr. Pitt describes several cases in which aortic regurgitation was due to dilatation of the orifice without disease of the valves. Dr. Bokenham writes on streptococcic infection and serum-therapy. He believes the treatment will often prove useful, and urges that it be administered vigorously—"minute doses and half-hearted treatment" are useless; 10 c.c. should be injected every few hours.

A Manual of Gynæcological Practice for Students and Practitioners. By Dr. A. Dührssen, Professor in Midwifery and Gynæcology in the University of Berlin. Second English Edition. Translated and edited from the Sixth German Edition by J. W. Taylor, F.R.C.S., Professor of Gynæcology Mason's College, Birmingham, and Frederick Edge, M.D. Lond., F.R.C.S., Surgeon to the Wolverhampton and District Hospital for Women. London: H. K. Lewis. With 125 Illustrations. 1900. Crown 8vo. Pp. xlii. and 279.

It is unnecessary to review at any great length a work which has reached its sixth German and second English edition, as the fact that such a stage is reached by any book is proof that it has fulfilled the purpose for which it was written. The practitioner who knows some gynæcology can have but one opinion about Dr. Dührssen's work—that, of all the books of its size in the English language, it is the one from which he will get the greatest amount of information with the least amount of unnecessary padding. The student, however, who does not know any gynæcology invariably looks on Dr. Dührssen's little book with less favourable eyes. He considers it as a book not at all unlikely to influence the questions of his examiners, while, at the same time, it is one which he finds the greatest difficulty in understanding. The cause

of this difficulty is by no means easy to determine. It certainly is not due to the manner in which the subjects are arranged, as Dr. Dührssen's arrangement is most logical in its sequence, and the same may be said of the manner in which the various subjects are discussed. We are inclined to think that the cause of the student's difficulty is to be found in the use of terms with which he is unfamiliar, and which are not defined in the text. We are also inclined to think that the translators' choice of English does not always help to diminish the student's difficulties.

We cannot agree with the translators that the usefulness of castration for myomata is not sufficiently appreciated by the author, or that "in all cases of myomata in which surgical treatment is advised (except sub-mucous fibroids which are easily removable from the vagina) this should be the operation chosen, whenever practicable, and only those cases in which the removal of the appendages is impossible should be submitted to hysterectomy." Surely this is contrary to modern teaching and experience. With this single exception the little work is most thoroughly up-to-date in every particular, and can be recommended as the very best book of its size on gynæcology in the English language.

Midwifery Notes, for the use of Students. By T. A. GLOVER, M.D. Edin.; Fellow Obstetrical Society, London, &c. Edinburgh: E. & S. Livingstone. Pp. 95.

THESE "Notes" must not be taken seriously, save in that they show the curious misconceptions which exist with regard to the essentials of midwifery practice at the present day. A few short extracts may take the place of a more formal notice:—"The exigencies of the medical curriculum frequently compel students to attend cases when they have not yet reached the practical part of their studies, and I have written this little book in the hope that it may prove useful to them" (Preface). Under the list of instruments, which this so far untaught student

requires, comes the following:—"Forceps—the student may get an opportunity to use forceps, and it is advisable to have one instrument and to be familiar with its use" (page 38). Again—"I would here advise students that two great factors of success in obstetric practice are kindliness and cleanliness, as well as skill in obstetric manipulations. Cleanliness cannot be too strongly insisted upon" (Preface); and later—"The extreme necessity for cleanliness need not be urged at any length now-a-days" (page 39). Excellent advice, if it was adhered to. But we also read—"The following requisites will be found useful at some time:—. . . 4. A pot or collapsible tube of some antiseptic lubricant; . . . . 5. A male gum-elastic catheter, which will be found more useful than a 'female' catheter; . . . 7. An ordinary enema syringe, with long adjustable pipe" (page 38). "To make an examination pass the left hand under the bedclothes, . . . then pass the right hand up behind the thighs till the fingers reach the vulva, avoiding the anterior part" (page 40). And, moreover, there are six illustrations depicting various manipulations being performed by a gentleman with coat and shirt sleeves down to his wrist. In placenta prævia "the first thing to be done is to puncture the membranes" (page 66). In post-partum hæmorrhage, "if, after the hot water has been tried, there is still hæmorrhage . . . a good remedy, which has also the merit of being usually to hand, is vinegar. . . . A handkerchief soaked in vinegar should be passed into the interior of the uterus, and the vinegar squeezed out over the surface" (page 71).

We cannot believe that these extracts represent modern Edinburgh teaching.

Nordrach at Home, or Hygienic Treatment of Consumption, adapted to English Home Life. By M. J. S. Lucas, B.A., M.R.C.S., L.R.C.P. Bristol: J. W. Arrowsmith, N.D.

This is little more than a summary of the treatment at Nordrach, Falkenstein, &c., and the adaptation to English

home-life is very slight. To mention salicylic acid and its salts as amongst the antipyretics commonly given seems hardly to reflect the Nordrach treatment, while doctors at home will hardly agree that "of drugs, alcohol is of the greatest use in febrile cases." Nor will they lightly follow the author's recommendation—"with cases of high fever an ounce (of brandy) every three or four hours may be given, and a warm drink of brandy and milk in the middle of the night is often of the greatest service."

Health Abroad. A Medical Handbook of Travel. Edited by EDMUND HOBHOUSE, M.D. London: Smith, Elder & Co. 1899. Pp. 372.

THIS is a most interesting book, quite unlike those dictionary works which give little more than a list of names. Dr. Hobhouse has secured as collaborateurs a number of medical men who are intimately acquainted with the countries they describe, and with their advantages and disadvantages as health resorts.

The section on South Africa is written by Dr. Guillemard, and it is curious to read of the prospects of cure in places which during the past few months we have learned to regard as death traps; Matgesfontein, for instance, "has many advantages as a resort for invalids with pulmonary disorders." In the near future, when peace is restored, and when large numbers of our countrymen are seeking homes in Africa, Dr. Guillemard's excellent chapter should not be overlooked.

In a summary by the editor much excellent advice of world-wide applicability is given.

"To be temperate in meats and drink, to wear wool next the skin in all climates, to keep the head cool, the body warm, the feet dry, to boil all doubtful water and milk," are given as the simple commandments.

"*Quâ* physical labour and endurance the total abstainer will bear both Arctic cold and Equatorial heat better than even the moderate drinker; far better than he who drinks at all freely. The casual whiskey and soda, which seems a negligible quantity in a club at home, may mean a fatal

attack of heat apoplexy under an Indian sun or sleep without awakening in a North American blizzard; bad at any time, it is fatal under such conditions."

There is a good index and an excellent bibliography.

Essentials of Modern Treatment of Disease, for the use of Practitioners, alphabetically arranged for ready reference. By K. M. NADKARNI, Associate Editor, Indian Medico-Chirurgical Review, &c. In two volumes. Madras: N. K. Rao & Co.

THESE two handy volumes contain a great deal of information on the treatment of disease. They are not a work upon treatment by one author in the sense that Dr. Burney Yeo's well-known book is; on the contrary, each article contains a number of modes of treatment advocated by various medical men. From these the busy practitioner cannot fail to get some valuable hints. The pages are interleaved with writing paper, so that the owner of the volume can from time to time, either from his reading or from his own observations, make notes for himself.

The Medical Review. (*Medical and Surgical Review of Reviews.*) An Indexed and Illustrated Monthly Summary of all that is important to the Practitioner in the Medical Periodicals of the World. Edited by NATHAN E. BOYD, M.D. Volume II. January to December, 1899. Editorial and Publishing Offices; Connaught Mansions, Victoria-street, London, S.W.

THIS well-prepared and very moderately-priced periodical is assuredly worthy of the support of the members of our profession. The present volume—a quarto of 768 pages—is filled with excellently-prepared abstracts of the most interesting cases to be found in the current medical literature of the world. The fact that so much instructive information, which would otherwise have necessarily escaped the ken of the great majority of the profession, has been brought together within so convenient a compass, and at so moderate a price, offers the highest claim that we can imagine to the patronage of every English-speaking practitioner.

PART III.

MEDICAL MISCELLANY.

Reports, Transactions, and Scientific Intelligence.

The Epidemic Disease in the Richmond District Lunatic Asylum in Dublin. Report to his Excellency the Minister of Marine by Dr. A. F. Verschuur, Dirig. Off. v. Gez.; and Dr. G. van Ijsselsteyn, Off. v. Gez. 1e kl. Translated by Daniel F. Rambaut, M.D., Assistant Physician and Pathologist, Richmond Asylum, Dublin.

TRANSLATOR'S PREFACE.

In the summer of 1894, a strange epidemic broke out in the Richmond Lunatic Asylum (see the published writings of Dr. Conolly Norman on the subject). A second epidemic began about the middle of August, 1896, and a third early in July, 1897.

At the invitation of Dr. C. Norman, Rear-Admiral Hodenpyl, Inspector of the Marine Medical Service, sent a commission, consisting of Dr. A. F. Verschuur and Dr. van Ijsselsteyn, to Dublin, to investigate the cause or causes of the epidemic, and, if possible, to determine the conditions that favoured its propagation. Their stay lasted from the 16th to the 21st of August, 1897. On their return to Holland they issued a joint report, of which the following is a translation.

Consistent with clearness, I have tried to be as literal as possible; but, to render the meaning the more distinct, I have, here and there, inserted an unimportant word or phrase for which no corresponding word exists in the original. Such words or phrases it has seemed to me advisable to place within brackets.

D. R.

In 1814, the Richmond District Asylum was founded for the treatment of the insane of the whole of Ireland. Since 1831 it has, however, been set apart, exclusively, for the counties of Dublin, Louth, and Wicklow, and also for the Cities of Dublin and Drogheda.

At first the institution consisted of a stone building capable of

accommodating 240 patients. Since 1833 the place has been more and more extended, in order to meet the ever-increasing number of those for whom admission was requested. On account of the overcrowding of the institution several wooden buildings were erected in 1893, 1894, and 1895, as a temporary provision.

At present the Asylum contains over 1,700 patients, together with 200 nurses, male and female. The area of its grounds is 54 acres. They are situated on the north side of the city, at an altitude of from 20–30 metres above the level of the sea, and are bounded by the female prison, the workhouse, with about 3,000 inmates, and the House of Industry Hospitals, holding about 200 beds. The grounds are also surrounded by private residences and labourers' cottages.

The various stone and wooden buildings look very clean, and are partly painted, partly whitewashed. Never has arsenic or other substances injurious to health formed an ingredient of the paint. The ventilation is fairly good; our observations were made in the summer, when doors and windows could be opened without producing any troublesome draught. The buildings are warmed by means of hot-water pipes.

In rainy weather the ground-floor rooms of some of the stone and wooden buildings seem damp, by reason of being situated too low. The wooden floors, also, leave something to be desired. Lately, those in charge have begun to wax the wooden floors and fill up the chinks in order to exclude the damp. It is only in a few large rooms this has not yet been done, the floors being cleaned with water in the old way.

For sleeping accommodation, there are in use iron bedsteads with wire woven mattresses that are filled with hair. The bed-clothes leave nothing to be desired. As regards the personal clothes of the patients confined to bed, they appeared to us to be rather light. Indeed, they are sufficient for persons who will remain quietly under the sheets, but not so for restless patients inclined to toss about or to jump out of bed.

In many of the dormitories the beds were placed too close to one another, and this was especially the case in the Female Department. Corridors and passages are, here and there, used for sleeping purposes; so that, in proportion to the space, by far more patients are lodged than can be justified on hygienic grounds. During the day, however, the greater part of the patients spend their time in the gardens and dayrooms.

The stone floors of the kitchens, and of a few of the bath-rooms in the men's department, leave much to be desired; for grease and

dirty water can easily accumulate in the wide fissures between the flags, thereby providing an excellent medium for the development of micro-organisms.

Since 1887, excreta are removed by means of a new sewerage system falling into the Liffey, a river which flows through the City of Dublin. Prior to 1887, the drainage was very bad, and the soil must have been infected with sewerage. It was to this the many cases of dysentery, which formerly occurred in the institution, were chiefly attributed. After 1887 the number of patients suffering from this disease decreased considerably. However, during the last few years several cases have again occurred, and for these the Medical Superintendent of the Asylum, Dr. Conolly Norman, could not assign a cause. The present drainage is eminently satisfactory, and the drinking water is of a very good quality, as has appeared from repeated chemical examinations. Dr. Norman considers it impossible that the milk supply could have been the vehicle of the infectious germs, for the contractor supplies the same quality of milk to other institutions where dysentery has not occurred.

The water supply of the Richmond Asylum is from the same source as the water supply of the city; that is to say, a mountain stream in the Co. Wicklow. There the water is filtered and thence conveyed through iron tubes to the city, where, before it is used, it is again filtered. In the Asylum the water is carried through the various buildings and apartments in tubes such as are used in Holland. Factories which could possibly contaminate the water, are not to be found in the vicinity of the water source.

A few litres of water which had remained over-night in the tubes, were taken away by us to Holland, where it was examined by the Chemist of the Royal Dutch Marine, Dr. Simon Thomas, who declared it to be excellent drinking water.

The different articles of food for the use of the institution are purchased in the city from contractors, who, also, supply the workhouse and other institutions. In none of the latter [all of which are] in the immediate vicinity of the Asylum, have cases occurred of the peculiar disease treated of in this report. The store-rooms for the provisions that we visited gave no ground for criticism; and so far as could be ascertained the quality of the bread, butter, sugar, tea, fresh meat, and vegetables was very good.

Rice (peeled) is given only in small quantities—373 stones per annum ; that is to say, about 2,400 kilos. It is consumed chiefly by epileptics in their soup. A far greater quantity of potatoes boiled in their skins in accordance with the Irish custom, is supplied.

Mainly, the food is cooked by steam. The kettles and other utensils are made of iron or tin. We saw only a few kettles made of copper; but these were well tinned on the inside. A dinner at which we were present gave the impression that, both in quantity and quality, the patients' food was excellent. Different classes of patients are not under different systems of dietary, and sufficient care has been taken to ensure variety in food.

The disinfecting apparatus (Washington Lyons' Patent) consists of an oven and boiler placed in a detached stone building, divided by a stone wall into two compartments. In one is the boiler and the greater part of the oven; in the other, the remaining part of the oven. Articles about to be disinfected are brought in at one side and placed in the oven, and after being sufficiently disinfected are removed from the other side. Disinfection takes place according to the nature of the articles, by either hot air, or steam, or both. As the highest temperature attainable is 135° C., it is, consequently, fully sufficient for disinfecting purposes. It is customary to disinfect all articles of new patients. When mattresses are disinfected the contents are entirely taken out; the hair is disinfected in the oven, and the covers are burned.

The laundry is a building made up of several divisions. In the first the clothes are boiled in large boilers. In the second they are washed clean with soap. In the third they are dried in the drying apparatus, and in the remaining divisions they are prepared for renewed use. Finally, they are removed by a separate exit.

This Asylum was, during the summer and autumn of 1894, attacked by an epidemic, the chief characteristic of which seemed to be an inflammation of the peripheral nerves. Not unfrequently the attack began with vomiting and diarrhœa, sometimes with vomiting alone, and during the first day, or first two days, the temperature was slightly raised. In very many cases, however, these appearances were not noted; while complaints were made of lassitude, palpitations, dyspnœa, and heaviness of the legs, accompanied by shooting pains, especially at night. On investigation œdema was found to exist. It was most distinctly visible on the lower parts of the legs, on the tibia and ankles. Over the tibia the soft parts were very sensitive. There were anæsthetic spots, most constant on the lower part of the legs. Frequently the edges of such spots were markedly hyperæsthetic and sharply defined. The œdema sometimes greatly increased, and was not merely confined to the lower parts of the legs, but became general. It spread over the sacrum and sternum; also the face, which was more or less swollen and assumed a peculiar expression. This œdema could

not be ascribed to disease of the kidneys, because albumen was not once discovered in the urine.

The muscles of the lower limbs, especially the calves, were, in the beginning of the disease, hard to the touch, and on pressure very painful. Subsequently they atrophied, often in a high degree. Also the muscles of the upper extremities were not unfrequently attacked.

The changes in the heart were generally confined to enlargements towards the right. Occasionally there was accentuation of the second sound [the second heard in the pulmonary area] ; but in other respects nothing existed to indicate a lesion of the valves. The action of the heart was in all cases frequent and weak; and its frequency was greatly increased by the slightest exertion—for instance, by an effort to get out of bed. Often it was irregular, sometimes intermittent. In a number of cases, after a few pulsations of about equal force a weaker stroke followed.

The disappearance of the œdema did not always take place slowly: on the contrary, sometimes very rapidly, in a few days, or within twenty-four hours. Not till then did the atrophy of the muscles become clearly visible, most commonly on the lower, but sometimes also on the upper extremities. The muscles were thin and relaxed. The skin covering them was moderately œdematous, showing, occasionally, a slight pigmentation not ascribable to a previous lesion.

At this stage the knee reflexes, which at the beginning of the disease were generally raised, had invariably disappeared.

So relaxed had the joints become that if the patient lay on his belly the heel could easily be pressed against the gluteal region.

Dropped feet, accompanied by claw-like deformity, the result of paralytic contractions, occurred as a consequence of paresis or paralysis. Standing alone was, in some cases, just possible; but on the slightest deviation from the perpendicular position the patient fell. Some could move forward only in a sitting attitude and with the assistance of their hands. The paresis of the muscles of the arm, never so pronounced as that of the lower extremities, and far less frequently in evidence, caused dropped wrists.

Sometimes a fatal issue followed in consequence of paralysis of the heart and œdema of the lungs, conditions which were generally associated with hydrops pericardii and hydrops pleuræ. But, in the great majority of cases, the disease did not take such an alarming course. In most cases the symptoms were limited to complaints of lassitude, pains in the legs, general feeling of debility, palpitations, and dyspnœa on going up stairs. Enlargement

of the right side of the heart was discovered; also œdema, especially of the lower part of the legs. Frequently anæsthetic areas existed on the lower parts of the legs, back, breast, &c., and were generally accompanied by hyperæsthetic zones. These anæsthetic and hyperæsthetic spots were inconstant: some were observed which remained visible only for a day, others even not longer than an hour. Hyperæsthesia about the crista tibiæ, on being touched [in that region], was a very constant symptom. If the patient remained in bed and received good food these slighter forms got generally cured within a few months. Treatment with the continuous current seemed to exert a beneficial influence on the slightly atrophic muscles.

As to the diagnosis of the disease just briefly described, and which may be regarded as having occurred in an epidemic form, for it attacked 127 male and 47 female patients (of whom 18 male and 7 female sufferers died), Dr. Conolly Norman, the Superintendent of the Asylum, was induced to believe it was beri-beri. In this diagnosis he was supported by the opinion of other specialists in tropical diseases (Dr. Walter Smith and Sir T. Stoker); also, by the unreserved decision given on the spot, after careful investigation, by Dr. Patrick Manson. Dr. Manson, who at one time practised in China, now lives in England, and is recognised as a specialist in tropical diseases in general, and, in particular, on beri-beri, a disease on which he has written a valuable monograph. The epidemic began in June, 1894—at least it was then for the first time as such recognised. Dr. Norman, however, directed our attention to the fact, that it was quite possible cases might have occurred prior to that date; and this seems highly probable if one takes into consideration the great number of deaths from paralysis of the heart which immediately preceded the epidemic. Possibly, in many cases, the paralysis of the heart was only a symptom of the as yet unrecognised beri-beri. The epidemic increased in violence until October, and then rapidly decreased; so that after the first half of that month no new cases presented themselves. So much for the epidemic of 1894.

The cause or causes of the disease were sought after with the greatest zeal, and every effort was made to discover the conditions that favoured its propagation. Neither in the water, which was repeatedly examined, nor in the food, which might be described as very good, could anything suspicious be found. Moreover, the water was exactly of the same kind as that which is drunk by the whole City of Dublin. Again, the food was not different from that consumed by a number of private individuals and in public

institutions, and yet no similar disease presented itself elsewhere. Already, in the beginning of this report, we treated of this subject in full detail. [Then], assuming that the disease was beri-beri, nothing else was left but to pre-suppose the causes to which in tropical countries beri-beri is generally referred—such as over-population, insufficient ventilation, infected or damp soil, infected wood work (to this last factor especially Dr. Patrick Manson attached great importance).

In the middle of August, 1896, again an epidemic broke out, which increased during the autumn and beginning of winter, reaching its maximum in the early days of December, when, altogether, there were then 113 patients suffering from the disease. Soon it rapidly decreased, though a few isolated cases occurred during the months of January, February, and March, 1897, and even up to the summer. The number of deaths amounted to 7 male and 2 female sufferers. And, whereas in the former epidemic, doctors and attendants had remained free, in the second epidemic 7 female nurses were attacked.

In this epidemic, also, *post-mortem* examination revealed degeneration of the heart muscle, œdema of the lungs, hydrops pericardii et pleuræ and anasarca.

The third epidemic may be considered as having begun on June 1st, 1897. On that date there were still 4 male and 6 female patients suffering from the symptoms of the last epidemic. On June 3rd a patient was attacked who had suffered from this disease in 1894. From that date until the end of June, 9 female patients were attacked. In the month of July, 81 female patients and three nurses, and 30 male sufferers, amongst them one attendant, were attacked; so that within two months the total number of patients amounted to 124.

Now, although the epidemic appeared the most serious as regards numbers, yet in form it was mild, most cases being of a rudimentary type. One female patient died. Many of the patients (27 female and 11 male, together with one female attendant) had had a previous attack.

Such was the state of affairs at the end of July, 1897, when the Rear-Admiral, L. P. Gysberti Hodenpyl, Inspector of the Marine Medical Service, who takes a special interest in these epidemics, entered into a correspondence with Dr. Conolly Norman, Superintendent of the Richmond District Lunatic Asylum, with the result that we were sent to Dublin to investigate the causes and symptoms of this epidemic, and, if possible, to ascertain if the

disease was identical with the beri-beri which occurs so frequently in our colonies.

In order to give a clearer insight into the question, we have already spoken of the diet and general state of the Institution; we have also given a succinct review of the principal symptoms and the course of the disease in the three epidemics. At the time of our visit to the Asylum, from the 16th to the 21st of August, there were suffering of the patients 42 males and 143 females, and of the attendants 2 males and 4 females. It is by no means an easy matter, within the brief period of a few days, to acquire a correct idea of the nature of an epidemic such as is here spoken of. To us it seemed best to study accurately a few cases which might be regarded as types of the three epidemics, and, in addition, to examine as many patients as possible, with a view to discover to what extent their symptoms differed from these types. The remainder of our time we profitably employed in investigating whether the most striking features of beri-beri, as it appears in our colonies, were also prominent symptoms in the disease which appeared in the Asylum.

It will not be thought out of place to here return a word of thanks to the Superintendent, Dr. Conolly Norman, for his great kindness and clear information; also to his medical staff, especially to Dr. Rambaut, who showed such readiness to afford us every assistance.

Of some of the most typical cases we give short histories. These records are from detailed notes made by the attendant physicians. The latter have also, at our request, made notes of some other cases that greatly interested us. From these histories we have been able to form an idea of the manner in which the disease manifested itself in the three different periods.

In the first epidemic the symptoms were most serious, in the third it spread by far more rapidly, but the patients were less dangerously attacked. In all other respects there was no difference, except one of degree, between the three epidemics. It is a remarkable fact that those who had been already attacked ran a great risk of a second attack.

In the preceding brief description of the symptoms of the disease, we have emphasised the circumstance, that a considerable number of the cases began with vomiting and diarrhœa, or with vomiting alone, and a slight rise of temperature. Our attention was attracted to this circumstance while we were studying the typical cases already referred to. We are aware that, in cases of intoxication proceeding from the intestinal canal with rise of tem-

perature, violent pains are felt in the calves, while the muscles of these parts are as hard as a plank and painful on pressure. In the investigation of the ætiology of the disease this symptom appeared to us of the greatest importance. Dr. Norman and his staff assured us that this symptom was very frequent, but that it did not occur constantly is certain.

Generally, those attacked came under treatment after having complained of lassitude, pains in the legs, oppression of the chest, and certain subjective symptoms. The latter were :—Sensation of walking as if on felt, feeling as if ants were creeping over the body, painful formication (the pirri-pirri of the Japanese beri-beri), pricking of pins and needles, anæsthesia dolorosa, shooting pains through the calves (described by the patients as though they were caused by the blow of a whip), burning pains, and cold and hot shiverings, without fever. These symptoms require no further explanation.

In the great majority of the cases, by reason of the circumstance of the patients being insane, it was not possible for us to obtain satisfactory information. The clearest and most detailed histories are those of the male and female attendants affected. The anæsthesia and hyperæsthesia were of a very variable nature as may be perceived from the following histories of cases :—

Th. M. O. (male attendant), entered the Asylum on January 11th, 1897. Was always in good health, and discharged his duties with intelligence. On August 2nd he had a slight fever which lasted for two days, also a feeling of numbness and tingling in the left leg. Occasionally, both legs were "asleep," with a feeling of pricking of pins. Œdema over the tibiæ, more marked over the left than the right. On the left the œdema extends from the knee to the ankles, but not on the dorsum of the foot. The skin, especially that over the lower half of the calf of the leg, felt thick. No anæsthesia. Pulse, 124, when at rest, but it reaches 140 after movement of the arms. Pulse regular, weak, not intermittent, but, now and again, one stroke was weaker than the preceding ones. Heart sounds pure. Urine acid, free from albumen. At night the patient was much troubled with pain in the calf of the right leg.

August 3rd. A feeling of heat on the inner side of the lower part of the left leg. Pulse 80, and regular. Appetite good. Discharges regular. Prætibial œdema. No anæsthesia.

August 4th. He felt a little better in the morning. He soon becomes tired after walking. A feeling of numbness of the legs as though they were asleep, accompanied by a sensation as if caused

by pricking of pins and needles. He feels no pain on pressure of the lower parts of the leg; but, subsequently, a feeling as of pricking of pins and needles (retarded sensation) is experienced in those parts. Pulse markedly increased in frequency after the slightest exertion.

August 5th. The heart, now and then, intermittent; sometimes a feebler beat; stinging pains in the soles of the feet, and a pricking sensation in the toes.

August 7th. Pains in both forearms; pains over the tibiæ and over both inner surfaces of ankles. Sense of touch normal.

August 8th. During the whole night he felt pain on the inner surface of the left leg; two or three times he felt violent pains along the left arm, but they rapidly disappeared; still feels burning pains on the inner surface of the left tibia.

August 9th. In both legs there is a feeling of pricking with pins and needles, and a slight feeling of numbness along the inner surface of the right leg. Sense of touch normal.

August 11th. Pains in both legs from knees to feet, accompanied by a feeling of heat and stinging. Hyperæsthesia in the same regions and pains in the muscles on pressure.

August 19th. The patient declares he now feels no pain; but, that if he stands for a quarter of an hour his legs become very hot, and that he feels tired. Then the soles of his feet begin to tingle, and he has a feeling of formication; he feels the ground under him very well as he moves. No heart murmurs. Pulse 120, increasing to 155 during examination, by which apparently he was excited. Well marked *tache meningitique*. Pharyngeal reflex could not be excited. Galvanic excitability over the m.m. peronei and tibiales antici normal. Syphilis, it would appear, can be excluded.

R. O'B. (a female nurse), was always strong and enjoyed good health.

July 1st, 1897. Diarrhœa and vomiting.

July 2nd, 1897. In the same condition as day before. In the evening, as she attempted to assume the sitting posture, she had an attack of syncope; pulse very frequent; slight prætibial œdema; no albumen in urine.

From July 2nd to 13th œdema variable, disappearing and reappearing; no disturbances of sensibility.

July 13th. Anæsthesia extending downwards from the popliteal region; a feeling of numbness in left calf, and pain in both legs.

July 14th. An anæsthetic zone from knee to calf on the left side; a smaller anæsthetic spot on the upper part of the calf of the

right leg. Heart's action regular; second sound heard in pulmonary area accentuated; pains in the knees and around the ankles; no anæsthesia of the face.

July 15th. Anæsthesia over the whole thighs and legs, and, in addition, tender spots, especially over the lower part of the tibia. Great pain in thighs and knees, and cramps in the calves. Hyperæsthesia over sacrum (perhaps attributable to constantly lying in bed). A feeling of pricking of needles in the legs. Anæsthesia in the lumbo-gluteal region.

July 17th. Dropped feet; anæsthesia of thighs and lower parts of legs; both forearms are œdematous; the pulse is small and of variable volume: its frequency increases on slight exertion; the heart sounds are pure and regular.

July 30th. Sensation in the supra-mammillary region has altogether disappeared. After three days it returned and great hyperæsthesia and pain in that place.

July 31st—August 3rd. Neuritic pains of a violent nature in the back of the neck, and formications over the painful spots. Burning pains all over the back (painful formications, the pirri-pirri of the Japanese beri-beri).

August 3rd–5th. All feeling on the left side of the back has gone; still dropped feet.

August 5th. Feeling on left side of back has returned.

August 10th. All pains are gone and sensation is fully restored. There exists only hyperæsthesia over the inferior third of tibia, together with slight œdema. Pulse, 70, with body at rest; rises to 100 on moderate exercise.

August 19th. On our examination patient seemed to have fairly recovered; there were no cardiac irregularities, save that the pulse rose considerably after any movement.

Excitability of the m.m. tibiales antici and peronei were found to be normal. There existed in this patient a moderate degree of anæmia, which, according to the unanimous opinion of the attendant physicians, could not have been developed until recently. An investigation as to hysteria yielded negative results.

The œdemas generally began on the legs over tibiæ and ankles. Frequently the dorsum of the foot remained free, the outline of the swelling forming above it a kind of manchette. Some œdema, even in slight cases, could be pointed out over the sacrum and sternum. If the œdema increased, then, general dropsy supervened—hydrops facialis, scroti, præputii, &c. This hydrops facialis can be easily recognised in the photograph of Th. G. The œdema at times almost entirely disappeared, but again returned

with renewed severity. On the disappearance of the œdema, the atrophy of the muscles became more manifest. It is certainly a remarkable fact that the disappearance of the œdema occurred, in some cases, within so brief a period as twenty-four hours. Most frequently the atrophy occurred in the muscles of the lower extremities, particularly in the lower part of the legs. How far it advanced, and what functional disturbances it produced may be imagined from the photograph of Th. G.

Th. G. entered Asylum, in 1884, with acute mania, which passed gradually into dementia. He did, and does still, some work on the farm. He was, until August 10th, 1894, in good bodily health and very vigorous.

August 10th, 1894. Œdema (general); no albumen in urine; heart sounds normal; pulse, 90 per minute when at rest. Further, no symptoms dependent on his mental state can be discovered.

August 25th, 1894. The œdema had gradually disappeared, but it is returning now more markedly, especially over the ankles and the tibiæ. Urine sp. gr. 1030; no albumen; no sugar. The patient is accustomed to sit on the floor by the side of his bed, supporting himself on his hand in the manner indicated in the first photograph.

August 26th, 1894. Pain on pressure of the shins, and on pressure of the muscles of the calves. The face is greatly swollen, especially under the eyelids (see photograph). He cannot stand unaided. Suffers from constipation.

August 29th. Very marked œdema of the legs; he cannot stand.

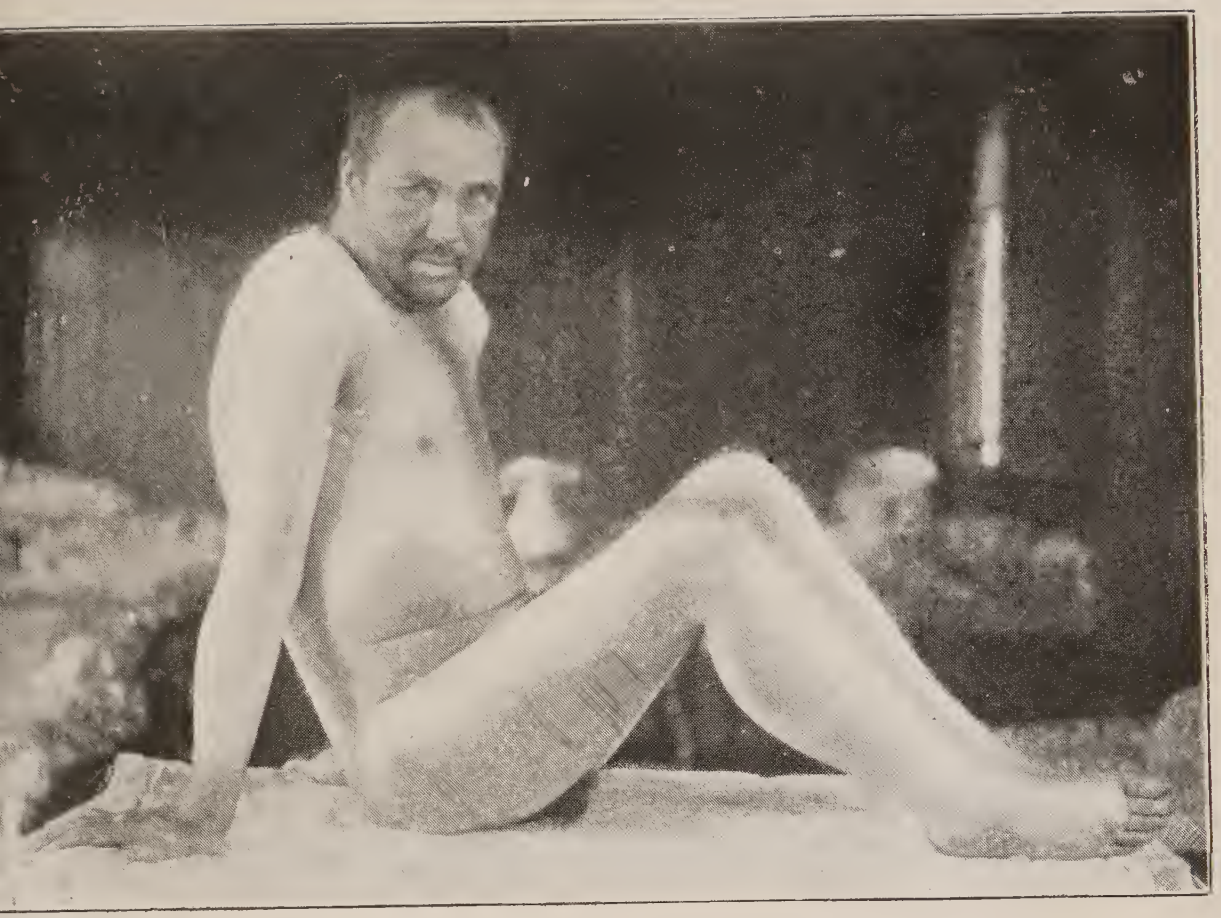
September 9th. Œdema has wholly disappeared. Now the atrophic form of the disease is most marked. Knee reflex has disappeared. The feet are dropped and inverted.

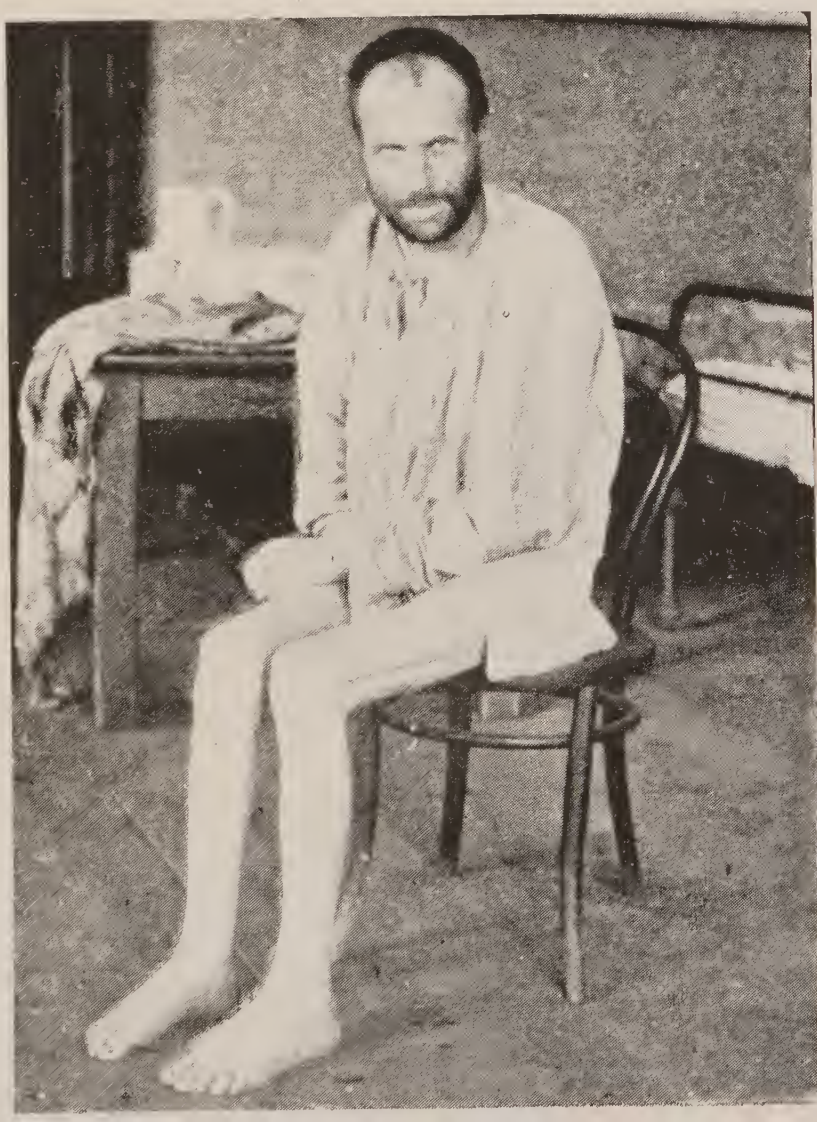
October 20th. The condition, speaking generally, is unchanged. Plantar reflex increased.

October 27th. Patient can stand. From this date he improved and can again perform some slight work.

August 19th, 1897. To-day we find the man recovered from the disease as above described, which he went through in 1894. No irregularities of heart; pulse, 80; knee reflexes weak but clearly observable. The gait is not abnormal, and the muscles are not atrophied.

(*To be continued.*)





Stricture of the Trachea. Translated by GEORGE FOY, M.D., F.R.C.S.I.; Surgeon to the Whitworth Hospital, Drumcondra.

THE following case occurred in the practice of Dr. Roussel (*La Loire Médicale*):—On the 4th of September, 1899, a housewife, thirty-six years of age, entered the Hospital de Saint Etienne. Her antecedents were uninteresting—her father died at sixty-four years of age, of hernia; her mother of a catarrh. She had ten brothers and sisters, of whom four died young; one brother, an alcoholic, died at thirty-six. There was no history of tuberculosis in the family. The patient, before the present illness, had enjoyed good health. She escaped all the diseases of childhood, did not show the least trace of scrofula, had no cough, and was free of rheumatism. She was twice married.

By the first husband she had two children, who are both healthy; by the second she contracted syphilis nine years ago, for which she went to hospital, where she remained for two years under specific treatment. Her first child by her second husband was dead-born, the second child died when three years old, and the third died at the eleventh month.

During the suckling of the third child the mother was very delicate; during the day she found it difficult to do the ordinary house-work, and at night her sleep was short and restless. She got cold, and was troubled with a constantly-recurring tickling cough, attended with a painful stitch.

Six months later she was much worse. She consulted many physicians, who one and all recognised the specific character of the disease. She, whilst taking the physicians' prescriptions, took large quantities of creosote, tola, quinine, and so forth.

After three months the sputum became very abundant, and symptoms of tuberculosis became more and more marked. Intense dyspnœa now supervened; the patient lost her appetite, became weak and very thin. She had all the appearance of a cachectic patient in the last stage of consumption; her skin was very pale, her lips were bright red, but she had not the swollen finger-tips.

The dyspnœa increased, and an examination of the lungs revealed tubular breathing and wheezing. The respirations were not more than sixteen in the minute in spite of these phenomena. The muscles of the neck stand out well defined, revealing the loss of fatty tissue. Cough is frequent and painful; from time to time the spittle is so abundant as to equal a vomit. There is no pain

on percussion; she complains of shifting pain points. Auscultation detects a notably prolonged expiration, more marked in the right side of the chest. Her voice is clear, but she sometimes loses it altogether. The larynx is immobile during phonation, deglutition, and respiration. On examination the rima glottidis is abnormally small, and has some cicatrices on the left side. The heart and circulation are normal. The teeth are well-preserved, though neglected; the tongue is moist and red. She suffers from anorexia, and is slightly constipated. There is no increase in volume of the liver; over the region of the spleen there was a slight enlargement of the area of dulness. Her menses are normal, but latterly they are followed by leucorrhœa. The urine is full of albumen, of an unpleasant smell, and of a heavy colour.

The thorax had a hard, gummatous nodule on the third right costal cartilage: it was larger than a hazel nut, and under the application of suitable ointment it disappeared. The inguinal glands were normal in appearance and size. She suffered from profuse sweats at night. Her temperature varied from 100° F. in the morning to 103·5° F. in the evening.

A mixed treatment was ordered for the patient, to wit—syrup of Gibert,[a] and iodide of potassium. Three days after admission the respiration became more laboured, and the supra-sternal and sub-clavicular depressions more marked, and the sputum became muco-purulent. For the first five days she eat almost nothing, then she took a little food.

On the 9th of the month the pupils were noticed as being unequal, and that the right eye was myopic; the right pupil, however, reacted better than the left, both to light and accommodation.

On the 12th the sputum had lost its muco-purulent character; was more pellet-like, followed by a soft aerated sputum.

On the 21st the sputum was less in amount, and wholly mucous in character. The respiration is unaltered in character. After four days time the patient had a fit of suffocation. These fits occur during the night as a rule; during the fit the face becomes pale, not purple coloured. Movement produces paroxysms of dyspnœa. The cough is so frequent that auscultation is very difficult. Clear sounds are obtained all over the pulmonary region by percussion; if there is any difference in the clearness of sound it is more marked on the left side.

[a] Sirop de Gibert, according to M. Gautier and F. Renault, consists of one part of biniodide of mercury and fifty parts of iodide of potassium in syrup, in such proportions that children from two to five years take half a teaspoonful for a dose, and adults take a tablespoonful.

On auscultation the inspiration is found to be short, and is to expiration as one to four. The myopic state of the right eye continues. She now eats a little better, but after eating complains of a sense of choking. The dose of her medicine is increased to 30 grammes of the sirop de Gibert, and 4 grammes of the iodide of potassium.

20th Nov.—The mixed treatment was continued for a long time with occasional intervals of cessation, and the improvement is considerable. There has been no menstrual flow for the past six weeks.

20th Dec.—There has been a rise of temperature, the cough is better, and the expectoration more healthy. She contracted influenza whilst in hospital.

23rd. Dec.—The gummatous tumour has almost disappeared—it is scarcely discernible. The laboured breathing and wheezing are no longer present; the dyspnœa has, however, returned since she contracted the influenza. The sputum is abundant, purely mucous and aerated; not viscid and without trace of pus. The inequality of the pupils remains—the right is contracted and the left dilated. Over the whole left side of the thorax the percussion note is normal; and with the exception of a small region of the right side, extending from the clavicle to the second intercostal space, the same condition exists. The vesicular murmur is normal on both sides; but on both it is notably prolonged.

2nd Jan., 1900.—The patient asked permission to leave hospital. Her condition was good; she had no pulmonary trouble, though she still had a slight influenza cough, and she had markedly increased in weight.

In this case the ulcers and their subsequent cicatrices were few and small, and the interest of the case is principally due to the marked beneficial effects of the mixed treatment in such cases of tertiary syphilis. To quote Dieulafoy—the modern treatment of pulmonary syphilis is a veritable triumph of therapeutics.

ROYAL ACADEMY OF MEDICINE IN IRELAND

President—Edward H. Bennett, M.D., F.R.C.S.I.
General Secretary—John B. Story, M.B., F.R.C.S.I.

SECTION OF OBSTETRICS.

President—A. V. Macan, M.D.
Sectional Secretary—John H. Glenn, M.D.

Friday, January 5th, 1900.

The President in the Chair.

Specimens Exhibited.

Dr. Purefoy.—A case of ectopic gestation removed by vaginal cœliotomy, with microscopical section showing chorionic villi.

Multilocular Ovarian Tumour.

Dr. Alfred Smith showed a multilocular ovarian tumour which he removed from a patient aged thirty-five. The patient was seized with severe abdominal pain and acute distension, with much distress. Examination under ether demonstrated uterus free, and a tumour the size of a full-term uterus, which would not come down to the pelvis; no pedicle could be made out. Diagnosis doubtful. Operation revealed a tumour distended with blood, pedicle acutely twisted. No adhesion had formed. Recovery.

Syphilitic Placenta.

Dr. Heard (of Monkstown) exhibited a specimen of above.

Dr. Purefoy said the history of the case pointed so very strongly to the probability that the condition was due to syphilitic disease that he would accept Dr. Heard's diagnosis. The greatest interest centred in the association of albuminuria with a state of health which could only be removed by the use of mercury, and the albuminuria made that fraught with danger.

Dr. Smith thought the condition of the intima of the arteries should be known before they could determine whether the placenta was syphilitic or not.

Dr. Jellett asked was the quantity of albuminuria large, and had the woman suffered during pregnancy or before it? If she had suffered from albuminuria before the pregnancy he thought it would be very interesting to subject the specimen to chemical investigation.

Dr. Montgomery proposed that the specimen be referred to the Committee of Reference for decision as to whether it was syphilitic or not. The proposition was seconded by Dr. Knott, and adopted.

Intraligamentous Myoma Removed by Cœliotomy.

Dr. Glenn exhibited a specimen of this disease.

Deciduoma Malignum.

Dr. W. J. Smyly read a paper on deciduoma malignum. Having reviewed the literature of the subject, he said that observers were now almost unanimous in believing that this was a disease sufficiently distinct to merit separate consideration. They also agreed as to its clinical features, pathological appearances, and treatment; also as to its connection with pregnancy, and differed only as to their views concerning its histogenesis. Having reviewed the various theories upon this subject, he stated that in the present state of our knowledge it was impossible to determine which view was correct, but he inclined to Veit's opinion, that the disease was a sarcoma, modified by pregnancy. He also described a case which had come under his own observation. The patient, a pluripara, was delivered of a hydatidiform mole in December, 1898. She had repeated hæmorrhages until May 10th, 1899, when she had so profuse a hæmorrhage that she was reduced to a condition of profound anæmia. The uterus was dilated, and a quantity of material resembling placenta removed, which, on microscopic examination, proved to be deciduoma malignum. Putrefaction and septic fever followed, with pulmonary symptoms and empyema preceding radical measures. She lingered two months, and then died. There was no *post-mortem* examination. Dr. Smyly showed the microscopic specimens at the Edinburgh meeting of the British Medical Association, when they were pronounced by Dr. Sänger to be typical examples of the disease which he had described.

Dr. Purefoy said he had never felt the tissue of the uterine wall in such a condition of utter degradation and softening as it was in this case. It felt like brown paper. The mole structure removed on the first occasion was of a nature not commonly seen in these cases. He thought it was mixed fleshy and hydatidiform mole. Scattered through it were distinct vesicles, evidence of vesicular degeneration being also present.

Dr. Smith said he was inclined to regard it as an ordinary sarcoma influenced by pregnancy. He knew some eminent pathologists who thought it an ordinary sarcoma. The whole literature of the subject was embodied in Dr. Smyly's excellent paper.

The PRESIDENT said there was one case not mentioned by Dr. Smyly—*i.e.*, Pick's case, in which he found the metastasis of the ordinary hydatid mole not to be malignant. Pick considers that the fœtal structures are only accidental, and they may even form embolisms without being malignant. Opposed to Veit's opinion (with which most people would agree) was that which regarded it as carcinoma of the outer layers of the epithelium covering the villi.

DR. SMYLY, replying, said the point about metastasis in cases of hydatidiform mole was one of extreme practical importance, because anyone who had not learned otherwise would think that when metastasis occurred the case was hopeless. But the metastasis might not be malignant; a woman might have benign metastasis in her lungs and recover after operation. Of course, if there were malignant metastases the case would be perfectly hopeless.

A Case illustrative of a rare form of Ulceration in the Female Urethra.

DR. PUREFOY said: The close resemblance in aspect and clinical history between some forms of chronic syphilitic disease and others of a malignant nature has long been recognised—indeed, sometimes the effect of treatment by drugs must be observed before the differential diagnosis can be safely established. Especially is this observable in regions where cutaneous and mucous structures coalesce, and hence the external female genitals, as might be expected, furnish some of the best illustrations of this fact. A young woman who recently was under treatment in the Gynæcological Wing of the Rotunda Hospital, complained of pain and soreness in the vagina, and on examination the following conditions were observed:—The greater labia were of normal size and healthy. On the inner surface of the left nympha a circular excavation exists, the edges sharp-cut and overhanging; the base, white cicatricial tissue. The entrance of the vaginal canal is closed by a morbid growth, with nodulated surface of a deep red colour, which, on close examination, proves to be an outgrowth hanging from the edge of an enormously dilated urethra—indeed, the lower third of this passage is so widened and distorted that considerable difficulty is experienced in passing a catheter into the bladder. Strange to say, the patient, in spite of this, does not suffer from incontinence of urine. In the vestibule and adjoining parts an indolent shallow ulceration is observed, alternating with patches of white cicatricial tissue marking its former course. In the writings of the late Dr. West I had long ago observed some records of cases so closely, if not identical, with the one under consideration that I do not

hesitate to quote some of his remarks. He says—"The affection has come six times under my observation—twice in married women, who acknowledge to having suffered from venereal disease; and four times in women of unchaste life, one of whom was at the time suffering from a secondary syphilitic eruption. In each instance the patient alleged that she had either been aware of the ulceration or had for some time suffered from painful and difficult micturition. Twice the disease was associated with excrescences from the mucous membrane of the urethra. The ulceration appears to begin at the orifice of the urethra, extending thence inwards towards the bladder, producing in its course a great widening of the canal and a patulous condition of its orifice, so that the finger tip can easily enter it, while the surface is the seat of large indolent granulations which secrete a small quantity of muco-purulent fluid, are not generally very tender to touch, but highly sensitive to the passage of urine."

I have met with this ulceration independently of any other disease in these parts, but also in cases where previous ulceration had destroyed the clitoris and the nymphæ, and have seen it associated with unhealthy ulceration about the posterior commissure of the labia and the entrance to the vulva, as also with those small condylomatous growths about the vulva which one often meets with in cases of vascular tumour of the urethra, and these latter, indeed, are far more commonly present than absent. When the disease has advanced far, or has been of long standing, the cellular tissue beneath the urethra usually becomes considerably thickened, and I have seen the lower wall of it represented by a dense cartilaginous substance, not unlike one of the lips of a hypertrophied and partially procident cervix uteri, while on two occasions I have been able to carry my finger along the whole length of the canal into the bladder. Even when not far advanced this disease causes difficulty in the retention or actual incontinence of urine, while, when it has extended along the whole canal, and left its aperture permanently patulous, the sufferer may be afflicted with complete incontinence. In one such case I have seen, the patient, aged twenty-two, had suffered from the infirmity for many months. She was afforded some slight relief and comfort by wearing a pessary, which, by pressing against the urethra, partly closed it. In another such case the ulcerated canal was so widely open that two fingers could be easily passed into the bladder. In its earlier stages this distressing affection admits of some amelioration by local measures—the application, for instance, of oxide of zinc in the form of ointment, or lotion with liquor plumbi; and, even in the

advanced stage, attended with widening of the urethra, the use of strong nitric acid, or the actual cautery, may bring about such cicatrisation and attendant contraction of the diseased parts that control of the bladder may be regained. Some facts in the history of my patient, as well as some scaly patches on the face and neck, afforded such presumptive evidence of a syphilitic taint that I prescribed for her a combination of bichloride of mercury and iron in mixture, and its use was followed by marked improvement, though I cannot be sure of its permanence. In many points these cases bear a close resemblance to that formidable disease of the female genitals first described in 1849 by M. Hugnier, and to which he gave the name "lupus hypertrophicus, or perforans." This affection is very rare; I have myself only once seen it, and medical literature does not afford records of more than about 40 cases in all. In the admirable "Memoirs on Diseases of Women," by Dr. M'Clintock, will be found excellent illustrations of some of them. Whatever views we entertain as to their pathological history, they serve, I think, to enforce the remark with which I began this short communication.

Dr. Smith asked what was the difference between this condition and prolapse of the mucous membrane of the urethra?

The President said he specially asked the question as to whether the orifice of the urethra was in the centre, because the same idea had occurred to him as to Dr. Smith. The ulceration seemed to be very much like the ulceration that took place in prolapse.

Dr. Purefoy, in reply, said that if the President and Dr. Smith had seen the case they would not put forward the opinion that it was prolapse. It had no character in common with that condition. Some of the tissue was whitish, and of almost cartilaginous hardness. The outline of the urethral canal was perfectly distinct. The tissue was entirely different from the ordinary mucous lining of the urethra, and was associated with and continuous with cicatricial tissue.

The Section then adjourned.

SECTION OF ANATOMY AND PHYSIOLOGY.

President—Professor W. H. Thompson, M.D.

Sectional Secretary—A. Birmingham, M.D.

Friday, February 2, 1900.

The President in the Chair.

Protamines and their Cleavage Products.

The President read a paper on this subject. Protamines, hitherto

obtained only from the ripe milt of various species of fishes, are believed by Kossel to be the simplest proteids. On hydrolytic cleavage they yield mainly hexone bases—viz., arginin, with histidin and lysin in some cases. These bases have recently been shown to exist largely in antipeptone. It appeared desirable, therefore, that their physiological properties, as well as those of the protamines, should be examined. The experiments were performed on anæsthetised dogs in the Physiological Institute, Marburg, and yielded the following results:—The protamines were found to be very poisonous, the maximum non-lethal dose being one-fifth of a gramme. Their effects in many ways resembled those of the albumoses; blood pressure was rapidly and profoundly lowered, but, with a moderate dose, returned to normal in half an hour. Coagulation was greatly retarded, and the number of leucocytes in circulation largely reduced. These effects were also temporary. Respiration was peculiarly influenced; the movements were at first greatly accelerated and exaggerated; then came a gradual decline, ending in complete cessation. After a few seconds diaphragmatic respiration returned, and gradually became deeper and deeper, the movements of the thoracic walls during this period being wholly passive. Subsequently (after the lapse of an hour or more) active thoracic respiratory movements reappeared, and the function gradually became normal. Other muscles—viz., those of the trunk and limbs, were also temporarily paralysed. None of the cleavage products showed these effects, nor did a trace of residue, which splits off in addition to the hexone bases, during the process of hydrolysis. Histon, a substance obtained from lymphoid organs, which has considerable chemical resemblance to the protamines, produced almost identical physiological effects.

Professor Coffey said it occurred to him, when thinking over Professor Thompson's former work, that there ought to be some parallel between the action of the protamine and the antipeptone, because antipeptone has now yielded some of the products that come from the protamine substance. Kutscher has established that antipeptone yields at least—if it is not a mixture of—arginin and other products. Is the action of antipeptone, as determined by Professor Thompson, the result of the presence of this arginin? How far will the action of antipeptone, of arginin, and of the protamine (which contains arginin) then coincide? But, as Professor Thompson showed, while the protamine substance itself has a very definite action, its products have no such action, and we are, therefore, face to face with the very interesting point that protamine

substance which will yield arginin, lysin, and lysatinin has very pronounced physiological effects, while its products have not. Such a divergence in action among closely allied substances is illustrated by the contrast between the proteid of nutrition and the proteose, which is one stage of its digestion—the first an absolutely necessary material, the other a poison.

Dr. Walter Smith said it was interesting to notice that certain chemical reactions, such as Millon's and the Biuret, in every-day use in hospitals, were related to the existence of these protamines, so that researches such as those of Professor Thompson had an interest for the physician, as well as for the physiologist. One of the most interesting points was the different physiological effects of hydrolysis on protamines and proteids. The proteids became more toxic when hydrolised, but the toxic activity of the protamines was diminished. As to possible pathological and therapeutical results, he thought it quite possible that in such problems as the action of antitoxic sera some help might be derived from these researches. Piperazin, a remedy in which he had no faith, had already been derived from these bodies.

Dr. Dawson said it was now established that certain depressed states of consciousness were almost always associated with raised blood pressure. The means hitherto at hand for controlling this had given very good results in the treatment of cases, but were not satisfactory, in the fact that their effect was very brief. It would be very important if from these protamines one could be selected which would produce a fall of blood pressure, and be more lasting in its effects, while devoid of risks.

The President, in reply, said, with regard to the possible similarity between antipeptone and some of these cleavage products, when working at antipeptone he was astonished to find it had very little effect on blood pressure and blood coagulation. It raised blood pressure slightly, and hastened coagulation. He found arginin hastened blood coagulation, while its effect upon blood pressure was practically nil—*i.e.*, it quite coincided with the effects of antipeptone. These substances reduced enormously the number of leucocytes in the circulation, but the leucocytes reappeared in about three-quarters of an hour; they could not, therefore, have been destroyed, nor have wandered out of the blood-vessels. Replying to Dr. Dawson, the fall in blood pressure, produced by even a dangerously large dose, would not last more than half an hour.

Model of Thoracic and Abdominal Viscera.

Dr. Patten, in the unavoidable absence of Professor Cnnning-

ham, exhibited for him a model of the thoracic and abdominal viscera from behind, which had been prepared primarily to exhibit the form and relations of the spleen.

Simple Forms of Mucous Glands.

Professor Coffey said his sections were exhibited to illustrate the formation and manner of development of the small racemose glands of mucous membranes. The specimens were taken from the œsophagus of snakes. The earliest stage was seen in the simple alveolus or sac opening without a duct, on the surface. Then forms, apparently consisting of two or three alveoli placed side by side, with the blind extremities of the alveoli alone distinct, and communicating with a large common cavity which, without narrowing, opened by a wide orifice. Simple dichotomous forms indicated another stage, but here there was complete distinction between the branched tube with its columnar epithelium, and the alveolus with oval cells. More complex conditions with trefoil alveoli and longer branched tubes were also present, approaching to the mammalian form.

A Series of Human Epiphyses.

Dr. Knott exhibited a large series of human bones, all of which presented non-united or partially united epiphyses. The series illustrated the development of the limb bones, the pelvis, scapula, sternum, clavicle, metacarpals, metatarsals, phalanges, vertebræ, ribs, and a large number of cranial bones. Amongst the specially interesting items were an atlas which was obtained in process of ossification from at least nine centres, and an ulna which presented a small epiphysis on top of the ordinary epiphysis for the upper end of the olecranon process, a centre of ossification which, up to this, seems to have completely escaped the notice of anatomists. When the elbow joint was bent this supernumerary epiphysis presented a striking resemblance to a diminutive patella turned upside down.

Professor Birmingham referred to the great difficulty of procuring specimens to show the epiphyses. Many of Dr. Knott's series were of the greatest interest, particularly those of the atlas and ulna. He was not satisfied, however, that the additional centre for the olecranon was constant. The incompleteness of our knowledge of epiphyses is illustrated by the fact that he exhibited some specimens two years ago in this Section which showed that the descriptions of the development of the coccyx found in all the

English text-books were inaccurate. The first coccygeal vertebra has at least five epiphyses instead of the one usually described.

The Form and Position of the Stomach.

Professor Birmingham gave a lantern demonstration of the form, position, and relations of the stomach as seen in bodies which have been hardened by intravascular injections of formalin. The chief points upon which he dwelt were:—That the empty stomach was contracted, not collapsed, its pyloric portion resembling thick-walled small intestine; its cardiac portion rounded, but attenuated; its surfaces looking, the one up, the other down, and its long axis nearly horizontal. In this condition it rests on the "stomach bed," occupying only the lower part of the "stomach chamber," the upper part of this space being occupied by the great omentum and the transverse colon, which double up over the empty stomach and lie between it and the diaphragm. The large, flattened, and collapsed stomach, with anterior and posterior walls in contact, usually described and pictured, is not found in the hardened body. Three stages were recognised in passing from the empty to the distended condition. In the first the fundus and cardiac portions were expanded, the pyloric portion remained contracted, and the lesser curve sharply bent as in the empty state; in this stage the stomach resembles a Florence flask, strongly bent at the junction of neck and body. In the second stage the cardiac portion is further expanded, and the pyloric portion opens out, but the junction between the two is distinctly marked. In the third stage there is an enlargement of all the axes of the organ; the distinction between pyloric and cardiac parts is almost lost; the pylorus is carried an inch or two to the left of the middle line, and the antrum pylori is developed. But in all these changes there is no *rotation* around the long axis of the organ, with a raising up of the great curvature, etc., as commonly described. The distended stomach lies obliquely, its long axis running from the fundus, not vertically, as we have been taught in recent times, but inwards and downwards, at an angle of about 40–45 degrees with both the horizontal and mesial planes. The various views expressed by the author were illustrated by photographs of hardened bodies, and also by a series of hardened stomachs, showing the various stages of distension, and showing the sphincter action of the diaphragm on the lower end of the œsophagus.

Dr. Patten said that in some investigations which he had recently made he had noted that as we ascend the scale from the lower animals there was an increasing tendency for the long axis

of the stomach to become somewhat oblique, while, at the same time, the transverse colon became more distinctly marked. Was the transverse colon the principal factor in determining this change in the position of the stomach?

Mr. Taylor said he had examined some formalin subjects from a surgical standpoint, and could bear out all Professor Birmingham had said regarding the position of the stomach. One point had impressed him very much in connection with gastro-enterostomy. The operation adopted for a long time, and still adhered to by some surgeons, was to take a piece of the small intestine, bring it up over the transverse colon, and fix it to the upper wall of the stomach. Now the beginning of the small intestine occupies a deep recess in the left region of the abdomen below the stomach, from which it is separated by the transverse meso-colon only, as just pointed out by Professor Birmingham. If the meso-colon be torn through, and this portion of the intestine connected to the under surface of the stomach, the result will be that the intestine will be connected to the lowest part of the stomach, and thus gravity will assist the passage of the food into the intestine.

Professor Birmingham, in reply to Dr. Patten's question, said he thought the obliquity in the human stomach was probably due to the wide thoracic framework. In a female subject with a very constricted waist, the stomach (which he exhibited) lay almost vertically on the left side of the vertebral column. Regarding the question of the existence of a valve at the cardiac orifice, he thought that little reliance could be placed on observations made on dried specimens. The return of food from the stomach into the œsophagus would be amply guarded against by the contraction of the muscular fibres of the œsophagus and the crura of the diaphragm, as illustrated by a specimen exhibited.

Visceral Anatomy of the Gibbon.

Dr. Charles J. Patten brought forward a communication dealing with the visceral anatomy of the gibbon. The paper dealt principally with the form and position of the thoracic and abdominal organs. Many of these (lungs, heart, stomach, spleen) very closely resembled those of the human subject, as one might anticipate in such a highly developed anthropomorphous ape. The specimen was first hardened in formalin to ensure the contour of the viscera.

The Section then adjourned.

SANITARY AND METEOROLOGICAL NOTES.

Compiled by J. W. Moore, B.A., M.D. Univ. Dubl.;
P.R.C.P.I.; F. R. Met. Soc.;
Diplomate in State Medicine and ex-Sch. Trin. Coll. Dubl.

Vital Statistics

For four Weeks ending Saturday, March 24, 1900.

The deaths registered in each of the four weeks in the twenty-three principal Town Districts of Ireland, alphabetically arranged, corresponded to the following annual rates per 1,000 :—

Towns, &c.	Week ending				Average Rate for 4 weeks	Towns, &c.	Week ending				Average Rate for 4 weeks
	Mar. 3	Mar. 10	Mar. 17	Mar. 24			Mar. 3	Mar. 10	Mar. 17	Mar. 24	
23 Town Districts	32·2	32·2	26·9	29·8	30·3	Limerick -	43·5	46·3	32·3	30·9	38·2
Armagh -	42·8	14·3	21·4	14·3	23·2	Lisburn -	42·6	38·3	29·8	21·3	33·0
Ballymena	56·4	45·1	22·5	11·3	33·8	Londonderry	39·3	29·8	31·4	22·0	30·6
Belfast -	30·1	28·3	22·8	24·5	26·4	Lurgan -	36·5	18·2	41·1	22·8	29·7
Carrickfergus	11·7	23·4	11·7	17·5	16·1	Newry -	52·3	24·1	16·1	28·2	30·2
Clonmel -	24·3	39·0	24·3	107·1	48·7	Newtownards	11·3	28·3	11·3	11·3	15·6
Cork -	29·1	23·5	38·1	29·1	30·0	Portadown -	6·2	49·5	24·7	30·9	27·8
Drogheda -	38·0	60·9	26·6	41·8	41·8	Queenstown	57·4	34·4	11·5	17·2	30·1
Dublin - (Reg. Area)	33·6	36·2	29·7	33·9	33·3	Sligo -	15·2	15·2	5·1	40·6	19·0
Dundalk -	0·0	25·1	8·4	16·8	12·6	Tralee -	61·6	33·6	16·8	22·4	33·6
Galway -	34·0	60·5	30·2	56·7	45·3	Waterford -	29·8	23·9	27·9	29·8	27·9
Kilkenny -	37·8	33·0	42·5	75·5	47·2	Wexford -	9·0	27·1	36·1	22·6	23·7

In the week ending Saturday, March 24, 1900, the mortality in thirty-three large English towns, including London (in which the rate was 20·6), was equal to an average annual death-rate of 21·6 per 1,000 persons living. The average rate for eight principal towns of Scotland was 22·2 per 1,000. In Glasgow the rate was 23·3. In Edinburgh it was 23·7.

The average annual death-rate represented by the deaths registered during the same week in the Dublin Registration Area and in the twenty-two principal provincial Urban Districts of Ireland—exclusive of deaths of persons admitted into public institutions from without the respective districts—was 29·8 per 1,000 of their aggregate population, which, for the purpose of this return, is estimated at 1,062,188.

The deaths from the principal zymotic diseases in the twenty-three districts were equal to an annual rate of 1·3 per 1,000, the rates varying from 0·0 in seventeen of the districts to 11·4 in Drogheda—the 11 deaths from all causes registered in that district comprising 3 from measles. Among the 169 deaths from all causes registered in Belfast are 1 from measles, 1 from scarlatina, 4 from whooping-cough, 2 from diphtheria, 3 from enteric fever, and 3 from diarrhœa. The 22 deaths in Clonmel comprise 2 from diarrhœa.

In the Dublin Registration Area the births registered during the week amounted to 226—120 boys and 106 girls; and the deaths to 236—122 males and 114 females.

The deaths, which are 18 over the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 35·2 in every 1,000 of the population. Omitting the deaths (numbering 9) of persons admitted into public institutions from localities outside the area, the rate was 33·9 per 1,000. During the twelve weeks ending with Saturday, March 24, the death-rate averaged 39·9, and was 7·0 over the mean rate for the corresponding portions of the ten years 1890–1899.

The number of deaths from zymotic diseases registered was 15, being 1 over the low number for the preceding week, but 14 under the average for the twelfth week of the last ten years. The 15 deaths comprise 1 from scarlet fever (scarlatina), 3 from influenza and its complications, 1 from diphtheria, 3 from diarrhœa, and 1 from dysentery.

The number of cases of scarlatina admitted to hospital during the week was 12, being 5 under the admissions for the previous week, but 1 over the number for the week ended March 10. Fifteen scarlatina patients were discharged during the week, and 71 remained under treatment on Saturday, being 3 under the number in hospital at the close of the preceding week. This number is exclusive of 14 convalescents who remained under treatment at Beneavin, Glasnevin, the Convalescent Home of Cork-street Fever Hospital.

The weekly number of cases of measles admitted to hospital, which had risen from 5 in the week ended March 3 to 8 in the

following week, and to 9 in the week ended March 17, fell to 5; 6 patients were discharged during the week, and 26 remained under treatment on Saturday, being 1 under the number in hospital at the close of the preceding week.

The number of cases of enteric fever admitted to hospital was 6, being 1 under the admissions for the preceding week: 10 patients were discharged, and 43 remained under treatment on Saturday, being 4 under the number in hospital on the previous Saturday.

Deaths from diseases of the respiratory system, which after having risen from 55 in the week ended March 3 to 78 in the following week, fell to 39 in the week ended March 17, rose to 72, or 20 over the average for the corresponding week of the last ten years. The 72 deaths comprise 48 from bronchitis and 22 from pneumonia.

Meteorology.

Abstract of Observations made in the City of Dublin, Lat. 53° 20′ N., Long. 6° 15′ W., for the Month of March, 1900.

Mean Height of Barometer,	30·083 inches.
Maximal Height of Barometer (13th, at 9 p.m.),	30·838 „
Minimal Height of Barometer (18th, at 9 p.m.),	29·246 „
Mean Dry-bulb Temperature,	39·7°.
Mean Wet-bulb Temperature,	37·5°.
Mean Dew-point Temperature,	34·6°.
Mean Elastic Force (Tension) of Aqueous Vapour,	·200 inch.
Mean Humidity,	82·5 per cent.
Highest Temperature in Shade (on 11th),	53·5°.
Lowest Temperature in Shade (on 17th),	27·1°.
Lowest Temperature on Grass (Radiation (on 18th)	22·0°.
Mean Amount of Cloud,	73·9 per cent.
Rainfall (on 13 days),	·963 inch.
Greatest Daily Rainfall (on 19th),	·234 inch.
General Directions of Wind,	E., N.W.

Remarks.

A very dull and cold month. The earlier part was dry, but there were frequent falls of snow or sleet and hail after the 15th. The total precipitation, however, fell slightly short of one inch. The amount of cloud was unusually large, being no less than 73·9 per cent. The estimated duration of bright sunshine was 84 hours, being a daily average of 2·7 hours.

In Dublin the arithmetical mean temperature (40·8°) was 2·3° below the average (43·1°); the mean dry-bulb readings at 9 a.m. and 9 p.m. were 39·7°. In the thirty-five years ending with 1899, March was coldest in 1867 and 1883 (M. T.=39·0°), and warmest in 1893 (M. T.=48·1°), and in 1868 (M. T.=47·3°).

The mean height of the barometer was 30·083 inches, or 0·167 inch above the corrected average value for March—namely, 29·916 inches. The mercury rose to 30·838 inches at 9 p.m. of the 13th, and fell to 29·246 inches at 9 p.m. of the 18th. The observed range of atmospheric pressure was, therefore, 1·592 inches.

The mean temperature deduced from daily readings of the dry-bulb thermometer at 9 a.m. and 9 p.m. was 39·7°. Using the formula, *Mean Temp.=Min.* + (*Max.—min.* × ·485), the M. T. becomes 40·6°. The arithmetical mean of the maximal and minimal readings was 40·8°, compared with a twenty-five years' average of 43·1°. On the 11th the thermometer in the screen rose to 53·5°—wind, S.; on the 17th the temperature fell to 27·1°—wind, W.N.W. The minimum on the grass was 22·0° on the 18th.

The rainfall was ·963 inch, distributed over 13 days. The average rainfall for March in the twenty-five years, 1865–89, inclusive, was 2·061 inches, and the average number of rainy days was 16·5. The rainfall, therefore, and also the rainy days were much below the average. In 1867 the rainfall in March was very large—4·972 inches on 22 days. On the other hand, the smallest March rainfall was ·288 inch on 8 days in 1893.

The atmosphere was more or less foggy in the city on 6 days—viz.. the 5th, 10th, 11th, 21st, 28th, and 29th. High winds were noted on 7 days, reaching the force of a gale on two occasions—the 15th and 18th. Snow or sleet occurred on the 16th, 18th, 19th, 20th and 26th; and hail also fell on the 1st, 18th, 19th, 20th, 24th and 26th. The temperature exceeded 50° in the screen on only 5 days, compared with 19 days in 1899, 9 in 1898, 14 in 1897, 21 in 1896, 13 in 1895, 22 in 1894, 26 in 1893, and only 7 in 1892. It fell to or below 32° in the screen on six occasions. The minima on the grass were 32° or less on 14 nights, compared with 13 nights in 1899, 15 in 1898, 9 in 1897, 8 in 1896, 10 in 1895, 12 each in 1894 and 1893, and 25 in 1892. The thermometer failed to reach 40° on 3 days. A solar halo was seen on the 29th. Thunder and lightning occurred on the 11th. Lightning was also seen on the 19th and 25th.

The rainfal in Dublin during the three months ending March 31st amounted to 6·698 inches on 63 days, compared with 5·562 inches on 51 days in 1899, 4·570 inches on 48 days in 1898, 7·069

inches on 57 days in 1897, 4·898 inches on 47 days in 1896, 9·084 inches on 52 days in 1895, 6·028 inches on 53 days in 1894, 5·196 inches on 49 days in 1893, 4·808 inches on 48 days in 1892, only 1·650 inches on but 32 days in 1891, and a twenty-five years average of 6·411 inches on 51·0 days (1865–1889) inclusive.

At Knockdolian, Greystones, Co. Wicklow, 1·320 inches of rain fell on 14 days. The corresponding figures for March, 1899, are 1·080 inches of rain on 9 days. The maximal fall in 24 hours was ·375 inch on the 18th. The total rainfall since January 1, 1900, equals 11·756 inches on 58 days, compared with 9·690 inches on 51 days in the first quarter of 1899.

The rainfall in March at Cloneevin, Killiney, Co. Dublin, was ·94 inch on 14 days, compared with ·67 inch on 9 days in 1899; 1·29 inches on 15 days in 1898; 3·28 inches on 23 days in 1897; 2·61 inches on 23 days in 1896; 3·29 inches on 21 days in 1895; 1·11 inches on 14 days in 1894; ·26 inch on 9 days in 1893; ·98 inch on 10 days in 1892; and a fifteen years' (1885–1899) average of 1·848 inches on 15·3 days. The maximum in the 15 years was 3·59 inches in 1888, the minimum was ·26 in 1893. At this station the total rainfall since January 1 was 8·17 inches on 62 days, compared with a fall of 6·95 inches on 45 days in the first quarter of 1899. On the 18th ·25 inch fell.

At the National Hospital for Consumption, Newcastle, Co. Wicklow, the rainfall was ·892 inch on 12 days, compared with 1·054 inches on 9 days in March, 1899. On the 18th ·311 inch fell. The total rainfall from January 1 to March 31, inclusive, was 10·631 inches on 57 days, compared with 9·929 inches on 48 days in the first quarter of 1899; 4·767 inches on 40 days in the first quarter of 1898; and 10·086 inches on 57 days in the first quarter of 1897. The extremes of temperature were highest, 53·0° on the 11th, lowest, 26·0° on the 17th.

At the Railway Hotel, Recess, Connemara, Co. Galway, the rainfall in March was 1·311 inches on 13 days, ·300 inch being measured on the 29th. Snowstorms occurred on the 16th and 17th. Only ·010 inch of rain was measured up to the 15th.

PERISCOPE.

ARMY MEDICAL SERVICE.

The Director General has forwarded for publication the following official list of successful candidates for Commissions in the Royal Army Medical Corps at the examination held in London in February, 1900 :—

		Marks			Marks
1	Biggam, T.	2,554	10	Adye-Curran, W. J. P.	2,185
2	Richardson, H.	2,532	11	Powell, J.	2,156
3	Carr, C. H.	2,490	12	Argles, R. L.	2,099
4	Baker, W. L.	2,462	13	Foster, J. G.	1,975
5	Cotton, F. W.	2,320	14	Lauder, F. P.	1,970
6	Bennett, E.	2,275	15	Ford, E. G.	1,803
7	Parry, F. M.	2,248	16	Walker, F. S.	1,802
8	Dinnis, B. R.	2,221	17	Purser, L. M.	1,800
9	Twigg, J. S.	2,185			

A PRE-LISTERIAN TRAVESTY OF THE GERM THEORY

The *National Medical Review* for November quotes the following curious dialogue from "The Devil on Two Sticks," by Foote, published in the year 1768, and reprinted by William Miller in the *British Drama*, London, 1804 :—Dr. Hellebore—"Brethren and students, I am going to open to you some notable discoveries that I have made respecting the source, or primary cause, of all distempers incidental to the human machine. And these, brethren, I attribute to certain animalculæ, or piscatory entities, that insinuate themselves through the pores into the blood, and in that fluid sport, toss and tumble about like mackerel or codfish in the great deep. And to convince you that this is not a mere *gratis dictum*, an hypothesis only, I will give you demonstrative proof. Bring hither the microscope. (Servant enters with microscope.) Doctor Last, regard this receiver. Take a peep." Dr. Last—"Where." Dr. Hellebore—"There. Those two yellow drops there were drawn from a subject afflicted with the jaundice. Well, what d'ye see?" Dr. Last—"Some little creatures like yellow flies, that are hopping and skipping about." Dr. Hellebore—"Right. Those yellow flies give the tinge to the skin, and undoubtedly cause the disease. And now for the cure! I administer to every patient the two-and-fiftieth part of a scruple of the ovaria or eggs of the spider ; these are thrown by the digestive powers into the secretory ; there separated from the alimentary,

and then precipitated into the circulatory, where, finding a prope nidus or nest, they quit their torpid state and vivify, and upon vivification discerning the flies, their natural food, they immediately fall foul of them, extirpate the race out of the blood, and restore the patient to health." Dr. Last—"And what becomes of the spiders?" Dr. Hellebore—"Oh, they die, you know, for want of nutrition. Then I send the patient down to Brightholmstone, and a couple of dips in the salt water washes the cobwebs entirely out of the blood."—*American Journal of Medical Science*, 1899.

EXERCISE IN INCIPIENT PHTHISIS.

W. Freudenthal, M.D., having examined some of the European Sanitoria for Consumptives, concludes (*Medical News*, New York, Feb. 24th, 1900), that—"(1) All patients with incipient phthisis must be occupied in some rational muscular work. These patients are directed to walk or even climb hills and mountains; they can just as well do some work which will keep them busy. This work should be selected with a view to the financial state of the patient. (*a*) The well-to-do people can do gardening, snow shoveling, light carpentering work, &c. (*b*) The poorer ones ought to do, or learn how to do, some work which they can utilise afterwards for their own support. Agricultural work, light farming or the others mentioned above would be suitable. (*c*) Every sanatorium should be provided with facilities to teach this as far as possible. (*d*) All this work should go under the supervision of physicians. (2) Sanatoria for the rich and for the poor should be under one financial management, although not necessarily in one and the same place, so that the surplus of one institution can help to support the other. This surplus could be obtained partly from the manual labour of the patients themselves."

REMOVAL OF TONSIL AND ADENOIDS, FOLLOWED BY FATAL RESULT.

J. A. Stucky (*Annals of Otol., Rhinol. and Laryn.*, May, 1899) reports the case of a "bleeder," aged fifteen, reduced in health from "grippe," and presenting an extra large tonsil already affected with peri-tonsillar abcess, which was discharging when patient presented. No acute symptoms. No unusual bleeding at time of operation, but within two hours profuse secondary hæmorrhage occurred which yielded to treatment, leaving the patient in such a weakened condition that in spite of whisky, strychnin, digitalis and transfusion death occurred nine hours after the operation, and seven hours after the secondary hæmorrhage.—*The Laryngoscope.*

THE DUBLIN JOURNAL

OF

MEDICAL SCIENCE.

JUNE 1, 1900.

PART I.

ORIGINAL COMMUNICATIONS.

ART. XVII.—*Toxins and Antitoxins.*[a] By A. C. O'SULLIVAN, M.D., F.T.C.D.

SINCE Behring and Kitasato's first article (1890) enormous advance has been made in the knowledge of toxins and antitoxins, and substances have been found which antagonise not only bacterial poisons, but poisons derived from the higher plants and animals. There is, however, an extraordinary similarity in the means by which all these substances are obtained; so much so that the same general description will apply to them all. *The blood serum of an animal artificially immunised against a given specific toxin will immunise other animals against the effects of the same toxin.* This is known as Behring's law. The substance in the serum which is active against the toxin is the antitoxin. This name is, however, often applied to the serum itself, and the word toxin similarly has a double sense. It may mean the active principle—*i.e.*, that which acts on the tissues, or the medium in which that principle is found. This double use can hardly cause confusion once attention has been directed to it.

I wish, in this address, to give an account of the present state of our knowledge with regard to two questions

[a] A Presidential Address delivered before the Section of Pathology in the Royal Academy of Medicine in Ireland, on Friday, November 3, 1899.

relating to these bodies. First, what is the source of antitoxin? Second, how does it act? Before approaching these questions it would be well to make our conception of immunity a precise one.

We may first distinguish between natural and acquired immunity. Theoretically a natural immunity would be one in which an animal reacted to an injection, of a fluid containing bacterial or other poisons, on the living bacteria themselves precisely as if an indifferent fluid were injected in the same quantity. This condition, if it exists at all, is rare. We should rather look on it in this way, that there are degrees of immunity, so that there is a scale for each poison, from the most resistant to the least resistant animal.

Acquired immunity may be produced either—

1. By taking the poison accidentally and recovering from it.
2. By inoculation in a less susceptible part of the body—*e.g.*, variolisation.
3. By inoculation with the attenuated organism, the attenuation being produced in various ways—*e.g.*, Pasteur's anthrax inoculation, Jenner's vaccination, Haffkine's cholera inoculation.
4. Small doses of the organism.
5. Toxins (or dead bacilli) in sterile medium—*e.g.*, Salmon and Smith, pigeons with hog cholera; Wright, typhoid inoculation.
6. Any of these (2–5) by the stomach (Ehrlich).
7. *Serum of immune animal. Behring.*

There is a marked difference which will at once strike you between the last of these methods and all the others. The first six methods are all methods of active immunisation; the last is a method of passive immunisation. If in treating a dyspeptic patient you were to stimulate the secretion of pepsin by the action of a drug you might be said to promote active digestion; if you introduced pepsin into the stomach before, with, or after the food, you might be said to induce passive digestion, and it is just the same with immunisation. In the first methods the body is induced to form antitoxin by the action of small doses of toxin. In the latter case the antitoxin is introduced into

the body ready-made. A further analogy between the two cases is that when your drug had done its work on your patient, and restored him to health, it might be discontinued, while the ready-made pepsin would have to be introduced at each meal. Similarly the immunity resulting from active immunisation lasts for a much longer time than that which is produced by the administration of antitoxin, as the antitoxin is excreted, if not used up by the toxin.

We may now turn to the first of the questions I have proposed to discuss, the source and nature of antitoxins. First, then, *How are antitoxins produced?* Bouchard and his school held that bacteria secreted the protective substances as well as the toxins. The facts that the toxins without the bacteria are sufficient to produce active immunity, and that the antitoxin so produced can go on increasing after all injection of toxin has ceased, are quite sufficient to make this theory untenable. To take one experiment out of many—A goat was immunised against tetanus by the injection of tetanus toxin. After the dosage with toxin ceased the antitoxic value of the serum was accurately estimated. Successive quantities of blood were drawn from the goat and replaced by the blood of a fresh goat which was known to have no antitoxic value. This went on until there was only $\frac{1}{12}$ of his original blood in the goat. After this had been done the antitoxic value was seen to rise gradually to double what it had been when the toxin dose ceased. This cannot be explained in any other way except by supposing that the toxin stimulates the cells of the body to produce the antitoxin, and that it is not the blood cells but the tissue cells that do so. When we come to inquire what the particular cells are which produce antitoxin we are met by greater difficulties. Tetanus affords the most promising field for solving this question, because it is evident that tetanus poison acts directly on the central nervous system. Now Wasserman has shown that an emulsion of the brain of an animal which is sensitive to tetanus has strong antitetanic properties, while if the animal has been poisoned by tetanus its brain loses this power. Here we have a

case of neutralisation of antitoxin by toxin, and this, not in the serum, but in the brain cells themselves.

Other experiments tend in the same direction, and we may say that, in the case of tetanus at all events, the cells of the brain, which are those attacked by the toxin, are also those which produce the antitoxin. It is easy to see that such a thing is extremely hard to prove or disprove in other diseases where no specific cells are specially attacked, and, of course, the view goes counter to all the work of Metschnikoff and his pupils on the protective action of the wandering cells of the body.

We now come to the second question—*How do the antitoxins act?* Here, again, Bouchard held that the protective substances acted either by killing the bacteria or by attenuating their growth or their virulence. This theory receives support from the fact that bactericidal or attenuating substances *are* found in many cases in the blood of immunised animals in greatly increased quantity, and, no doubt, this factor comes in largely in recovery from disease. On the other hand, the bacilli of tetanus and diphtheria, and the streptococcus pyogenes, will grow quite well in their respective antitoxins, and when filtered out, and freed from the antitoxic serum, regain their virulence readily. Hence an antitoxin is not necessarily a germicide, but, as its name denotes, an antagonist to the toxin. Bouchard's theory is now quite given up. But there are still two ways in which we may conceive this action—antitoxin may neutralise the serum, or it may immunise the cell.

A very hot controversy has raged between the supporters of these two theories. Behring was the champion of the first, Buchner of the second. At first the advantage seemed to be all on Buchner's side. Roux, arguing from the fact that a mixture of toxin and antitoxin which was neutral for a healthy guinea pig was toxic for one in which the resistance was weakened, gave the weight of his authority to Buchner's view. More recent work has been all in the opposite direction. By the methods of accurate determination of the toxic and antitoxic values of media which were introduced by

Ehrlich, it was shown that Buchner's and Roux's supposed neutral mixtures were not really neutral, either because there was not enough antitoxin, or, as Cobbett showed lately, because they had not been allowed to stand sufficiently long; while the beautiful experiment of Martin and Cherry, which has been reproduced under more accurate conditions by Kanthack and Cobbett at Cambridge, goes far to settle the question definitely in favour of Behring's view.

Martin and Cherry, by choking a Chamberland filter with gelatine, produced a filter which was pervious to the toxin of diphtheria, but not to the antitoxin. They passed through this filter a mixture of toxin and antitoxin, which had been allowed to stand for some time, and found that the filtrate had no toxic properties. This could not have been the case unless the toxin had been neutralised by the antitoxin.

We may take it then as pretty well settled that the antitoxin acts by entering into chemical combination with the toxin, whether the action is outside or inside the body. Lastly, it has been shown by Ransom that when an animal (pigeon) was poisoned by tetanus toxin in considerable quantity the toxin was found in all the tissues except the brain and cord, which are just the tissues attacked, so that the toxin, when combined with the cell protoplasm, is neutralised by it just as it is by the antitoxin.[a]

Let us now collect the facts which have been established in the foregoing remarks and see if they do not lead naturally to a hypothesis as to the nature of the interaction of these bodies:—

1. The toxin enters into chemical, or molecular, combination with the cell protoplasm, and when in this combination is neutralised—*i.e.*, is innocuous for other cells.

[a] I do not mean to imply that all these facts stand on the same level as to the experimental evidence for them. There is strong evidence for the second and third. The first and fourth have some evidence in their favour, and it is in the direction of establishing or upsetting them that future experimental work on this subject must proceed.

2. The toxin enters into chemical combination with the antitoxin, and when in this combination is neutralised.
3. The antitoxin is produced by the cell, and is thrown off by the cell into the blood.
4. The cells which produce the antitoxin are the same cells as those which combine with the toxin.

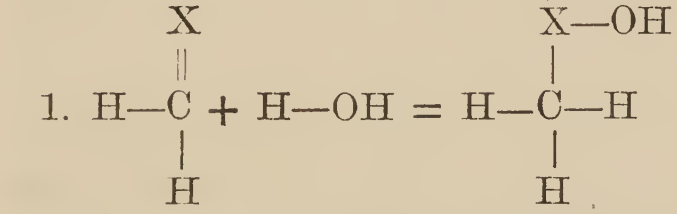
Now what could be more otiose than to suppose that the element in the blood which proceeds from the cell and neutralises the toxin in the blood is not the same element which neutralises the toxin in the cell. We are almost forced to the conclusion that it is the same. And so we arrive at the first part of Ehrlich's hypothesis, "That element, or group of atoms, in the cell protoplasm which combines with the toxin, when it is thrown off by the cell into the blood, *is the antitoxin.*"

But we have seen that it is the action of the toxin on the cell, and that only, which stimulates the cell to produce the antitoxin—that is to say, when any of the combining groups of the cell molecules are taken up by the toxin they are replaced by the cell, and replaced in very much increased numbers, as usually happens in all tissue regeneration. Ehrlich supposes that these combining groups, when they become numerous, lose their hold on the cell molecules, and pass over into combination with the molecules of the fluid in which the cell is bathed, and so get into the blood, and that the injection of a given quantity of toxin will stimulate the cells to produce many hundred equivalents of antitoxin.

But there is more than this, for toxin does not merely combine with cell protoplasm, it also destroys it. There is plenty of evidence to show that the part of the toxin molecule which poisons is not the same as that which first combines with the cell molecule. The toxins of diphtheria and tetanus, when kept in the liquid state, gradually lose their toxic power down to a certain point, but they do not lose their power of combining with antitoxin. It takes exactly the same quantity of antitoxin to neutralise a given quantity of toxin, no matter how long it has been kept, or how weak it has become. So, in Ehrlich's terms,

the haptophore group in the toxin molecule remains unaltered, while the toxophore group is changed. Thus the toxophore group is much less stable, and less rapid in combining than the other, and hence is probably much more complex.

Let us endeavour to illustrate this idea by means of a chemical formula. Suppose that the complex molecule of cell protoplasm contains the methylene groups CH_2, the molecule being represented by X—we have then $X.CH_2$ representing the cell molecule. The methylene group has a strong affinity for water (H.OH), which we may take as the analogue of the *toxin*, and we may suppose that *in the cell molecule* the water combines with CH_2 by means of its hydrogen atom, while the hydroxyl (OH) combines with the remainder X. If, however, the CH_2 group, having two unsaturated affinities, be set free from the cell molecule, it combines with both the H and the OH of the water, and the cell molecule is thus protected from the toxin. The equations representing these two actions would be—



1. $$\begin{matrix} & X & & & X—OH \\ & \| & & & | \\ H— & C & + H—OH = & H— & C—H \\ & | & & & | \\ & H & & & H \end{matrix}$$

2. $X + CH_2 + H.OH = X+CH_3.OH.$

In Ehrlich's terminology, the H represents the *haptophore*, or combining group, on the toxin molecule ; the OH the *toxophore* or poisoning group.

Let us now further suppose that the cell molecule, when attacked by the toxin in quantities too small to destroy it, is stimulated to replace the saturated CH_2 groups, and that these new groups, when produced in excess, tend to break off from the cell molecule and to lie in the blood serum. They can then combine with and neutralise the toxin in the blood, and so prevent it from attacking the cell, as represented in equation 2. These CH_2 groups, when set free, represent the *antitoxin*.[a]

[a] It must be understood that this is only meant as an illustration, and is not intended to indicate the actual chemical process involved, about which nothing is known.

There are many facts connected with the infectious diseases which appear paradoxical, but which receive a ready explanation by means of this hypothesis—*e.g.*, what is a naturally immune animal? A naturally immune animal is one whose protoplasm molecule contains few or none of the groups capable of combining with the toxin in question. Again, the incubation period of a disease, which appears in poisoning by toxins as well as by the living organism, is the time in which it takes the poisoning group to get to work after the toxin has been anchored on the cell molecule by its combining group. Again, it is found that the production of immunity and of antitoxin, although the cause of both is the same, do not at all run parallel to one another in amount. You may have an animal in the early stages of immunisation which is hypersensitive to the poison, while its blood is full of antitoxin; and, on the other hand, in the later stages animals are often found to be practically completely immune, while their blood yields no antitoxin at all.

As to the first case (Cobbett) the cells of hypersensitive animals are (on Ehrlich's hypothesis) actively producing combining groups which, as long as they are still attached to the cell molecule, form so many additional sources of infection. In the second case we may very naturally suppose that the power which the cell has of producing these groups is limited, and finally becomes exhausted, and the animal becomes the same as a naturally immune animal.

There are many other points of interest connected with this hypothesis, and especially in relation to the quantitative estimation of serum and toxin, but I will leave these questions untouched, being satisfied if I have put this somewhat complicated matter in such a way as to make it intelligible to those of you to whom it comes as a new idea.

ART. XVIII.—*On Commercial Pepsin.*[a] By SIR CHARLES A. CAMERON, C.B., M.D.; Professor of Chemistry, R.C.S.I., &c.

THE enzymes termed pepsin and trypsin are expensive substances used as aids to digestion. Pepsin is obtained from the mucous membrane of the pig, sheep, or calf. Trypsin, or enzyme, which, like pepsin, is a proteolytic ferment, is procured from the pig's pancreas. Pepsin is an official preparation of the "British Pharmacopœia," the dose being from 5 to 10 grains. It is, however, much more frequently employed as glycerin of pepsin (*glycerinum pepsini*)—a solution of pepsin in water, hydrochloric acid, and glycerin. Of this solution 1 drachm contains 5 grains, or 1 cubic centimetre, 0·0914 gramme.

Trypsin is not used in a separate state, but it is the principal constituent of the official liquor pancreatis. This is a solution of the non-fatty part of the pancreas in alcohol of 20 per cent. strength.

Great care should be taken in the preparation of pepsin, and the stomachs which yield it should be fresh and healthy. If it is heated much above 50° C. its digestive properties are impaired, and at 100° C. completely destroyed. The same observations apply to trypsin.

According to the "Pharmacopœia" pepsin should dissolve 2,500 times its weight of hard boiled white of egg. The process, as laid down in the "Pharmacopœia," is as follows:—12·5 grammes of white of egg, 125 cubic centimetres of acidulated water, containing about 0·2 per cent. of hydrochloric acid, and 0·005 gramme of pepsin are digested together at 105° F. (40·5° C.) for six hours, and shaken freely, the coagulated white of egg dissolves, leaving only a few small flakes in an almost clear solution. There are some details to be attended to which I need not particularise.

As regards the pancreatic solution, it is tested as follows:—If 2 cubic centimetres of the solution, together with 0·2 gramme of sodium bicarbonate and 20 cubic

[a] Read before the Section of State Medicine of the Royal Academy of Medicine in Ireland, Friday, April 27, 1900.

centimetres of water, be added to 80 cubic centimetres of milk, and the mixture be kept at 113° F. (45° C.) for one hour, coagulation should no longer occur on the addition of nitric acid.

By a recent order of the Local Government Board for Ireland the Guardians of the Poor Law Unions are required to have specimens of the drugs supplied to their infirmaries and dispensaries periodically examined. Since the 27th of June, 1899, 21 specimens of glycerin of pepsin have been sent to me for examination. On that date a specimen received from Shillelagh Union was found to possess no digestive properties whatever—it was absolutely inert. In July a sample received from Galway Union was a fairly good one. A second sample from Shillelagh Union was little superior to the first; it came to hand on the 29th July. A sample from Gorey Union, examined in August, had one half the digestive power which it should possess. In the same month a sample from Athy Union proved to be practically worthless. A specimen received in August from Sligo Union was found to be unfit for use. A specimen from Galway Union was tested in September. Five times the quantity of the glycerin of pepsin specified in the "Pharmacopœia" did not quite digest the prescribed quantity of egg albumen. In September a specimen from Armagh Union was found to be worthless. In September three specimens were received from Swinford Union. One had lost by far the greater portion of its digestive power, and the others were practically useless. A sample from Downpatrick Union, received in September, was practically useless. In September a specimen was examined for Tullamore Union; it possessed one-tenth only of the digestive power. A sample examined for Cavan Union in September retained most of its digestive power. A sample from Cookstown, tested in October, had one-tenth only of the proper strength. A sample received in the same month from Limerick Union had lost nearly all its fermentative power. In November a specimen from Carrick-on-Suir Union was found to possess the full power of dissolving albumen which the "Pharmacopœia" ascribes to pepsin. In December a specimen from Shillelagh

Union proved to be practically inert. One specimen of liquor pancreatis was sent; it came from Cookstown Union, and was practically useless.

In February, 1900, a specimen of pepsin examined for Mullingar Union had no appreciable effect on albumen, when used in the proportion mentioned in the Pharmacopœia: employed in 10 times the prescribed quantity, about three-fourths of the albumen were dissolved.

In March specimens of pepsin examined for Naas and Donegal Unions were found to be as slightly operative as the Mullingar sample.

A specimen of pepsin from Swinford Union, examined in March, was found to possess only one-fourth the power of digesting albumen which it should possess.

Pepsin examined in March for Magherafelt Union was fairly good, as it dissolved 75 per cent. of the prescribed quantity of albumen.

In March a specimen from Dunfanaghy Union when used in ten times the prescribed quantity digested three-fourths the proper amount of albumen.

A specimen of glycerin of pepsin examined in March for Athlone Union was found to be only slightly deficient in digestive power. Such also was the case with a specimen from Claremorris Union.

Three specimens of pancreatic liquor were examined in March—one from Donegal Union was good, the others from Dingle and Carrickmacross Unions were only slightly deficient in the power of coagulating milk.

It will be seen that out of 21 specimens of glycerin of pepsin tested only 4 were perfectly correct, 9 were wholly useless, and 8 had lost from 25 to more than 90 per cent. of their digestive power. There did not seem to be any difference between the samples due to temperature, as both good and bad samples came in hot and cold weather.

Of 5 specimens of pepsin itself, 3 had less than one-tenth the proper albumen dissolving power; two were deficient to the extent of 25 per cent. Of the 4 specimens of liquor pancreatis, one was correct, two were slightly defective, and one was useless.

As I was not informed as to the dates on which the

samples were received in the infirmaries and dispensaries, it is impossible to declare whether the want of digestive power was due to instability of the article or to original defect. In future the date on which the drugs are received will, I understand, be communicated to the analyst.

Art. XIX.—*The Dublin Method of Effecting the Delivery of the Placenta.*[a] By Henry Jellett, M.D., F.R.C.P.I.

In 1876 two well-known medical writers[b] called attention to the fact that the method of effecting the delivery of the placenta by external manipulations, as opposed to its manual removal or to its delivery by traction upon the funis, had been first introduced in Dublin, and that it was identical with the method of obtaining the same object which had been introduced at a later date in Germany by Credé, of Leipzig. In 1900, all German, and the great majority of British, works on midwifery term this method "Credé's method," while the few works which allude to the fact that the Dublin School of Midwifery had some share in introducing this most important improvement in the management of the third stage, consider that there is a difference between the "Dublin method" and "Credé's method." The object with which this paper is written is to prove the following propositions, and so to aid in restoring to Dublin the credit of having introduced one of the most important advances in midwifery which has been made during the nineteenth century. These propositions are as follow:—

(1) That the method of effecting the delivery of the placenta by external manipulations, as opposed to its manual removal or its delivery by traction on the funis, was originated in Dublin.

(2) That Credé's method, when originated *de novo* in Germany, was identical in principle with the Dublin method, and that it rapidly came to assimilate itself to the Dublin method in its most important details.

(3) That, consequently, there is no difference between

[a] Read before the Section of Obstetrics of the Royal Academy of Medicine in Ireland, Friday, May 25, 1900.

[b] M'Clintock and R. Barnes.

the Dublin method and Credé's method, and that inasmuch as the method originated in Dublin many years before the time that Credé discovered it for himself, its name is and ought to be "The Dublin Method."

In 1742 the first Dublin Midwifery was published by Fielding Ould, Man-Midwife, who subsequently, in 1761, became the second Master of the Rotunda Hospital—or, as it was then named, the Dublin Lying-in Hospital. In this work Ould calls attention to the fact that the immediate manual detachment and removal of the placenta after the birth of the child was not only unnecessary but dangerous, and as an alternative he recommends the following procedure:—"The Child must be laid on the Operator's lap, or on the Bed, as far from the Mother as the Length of the Funis will permit; which he must take in the right hand, about six Fingers' Breadth from the Pudendum, and roul it twice or thrice about his Fingers; then the first and second Fingers of the left Hand must be thrust into the Vagina, by its Direction; and the Patient stopping her Breath and forcing as if she were at stool; the Navel-string must be gently pulled forward as she forces, the Operator waiting rather for her Expulsion of it, than being too desirous to extract it; for pulling the Funis so as to extract the Placenta forcibly, may probably cause a Flooding; or perhaps break the Navel-string whereby the Placenta would be very difficultly brought forth; therefore let him just pull it sufficiently to make it incline forward, still insisting on the Patient's forcing down, which if she be not able to do of herself she must be compelled to it, by putting a Finger into her Throat, which will cause a Pressure of the Diaphragm, and the Muscles of the Belly, by her Effords to vomit; by these Means it is commonly brought forth in about five Minutes. When it comes away by Expulsion, it always is whole, but is subject to be broke, and part of it left in the Womb, if any violence be used for its Extraction." Here is the first recognition of the great principle upon which the Dublin method of effecting the delivery of the placenta is based—that *vis à tergo* is to be preferred to *vis à fronte* as a means of obtaining the delivery of the placenta, and also a recognition of the

fact that the uterus should, if possible, effect the detachment of the placenta itself. In this connection it is interesting to note that Smellie, who read Ould's Midwifery and considered that it contained only "two good observations," recommends a similar manner of extracting the placenta, and in almost similar words, although Ould's remarks under this head are not included in the "two good observations;" from which I presume we may gather that Ould's work contains three "good observations."

The next work on midwifery which was published in Dublin (1781) is by "Edward Foster, Late Teacher of Midwifery in the City of Dublin," and a former Assistant at the Rotunda Hospital. He does not make any very explicit statements as to management of the placenta, but from what he does say it is evident that he profited by Ould's advice concerning the bad effects of too rapid manual extraction. In a list of the various "aids nature, in this important and astonishing operation" (of natural labour), "requires from art" he says:—"To direct the secundines in their expulsion, and perhaps to expedite it moderately, by rolling the cord round the fingers of one hand, and pulling it gently and cautiously with the other." It is also evident, from the following remarks, that some idea was present in his mind, as to the value of friction and compression of the uterus, as a means of obtaining uterine contractions. "Too sudden evacuation of the uterus and abdomen is an occurrence which sometimes happens. . . . The effects. . . . may be. . . . a flaccid and collapsed state of the uterus, unable to contract; and if the placenta be either partially or totally separated, a profuse and dangerous hæmorrhage. These are prevented . . . . . by immediately compressing the abdomen of the woman by the hands of an assistant, or by a proper bandage tied round the body, and by supporting her with moderate cordials." And in another place he says:—"In this case" (post-partum hæmorrhage), "as the danger is imminent, the relief should be speedy; and the indications are—1. To remove all hindrance to the womb's contraction, by extracting any extraneous body that may remain in it. And, 2. To promote it, with the contraction of its vessels, by a proper pressure on the abdomen; . . . . "

In 1783, two years later than Foster's work was published, William Dease, Surgeon to the United Hospitals of St. Nicholas and St. Catherine's, Dublin, published his "Observations in Midwifery," and in this work chronicles an important advance in the evolution of the "Dublin Method." His words are as follows:—"We should never in general attempt delivering the placenta until by feeling over the pubis we find the uterus in a round, hard state of contraction, that the woman has some pains, and that we find some part of it engaged in the os uteri so that it has been detached, and all we have to do is to favour its expulsion. Should the detachment of the placenta not be effected in the usual time, it will be much facilitated by the operator's applying his hand to the region of the uterus, which he may excite to the necessary contraction by gentle friction. . . . "

Ould recognised that uterine contractions acting as a *vis à tergo* were to be preferred to manual removal acting as a *vis à fronte*. Foster recognised that pressure properly applied could bring about the contraction of an abnormally flaccid uterus. Dease recognised the possibility of using this means of causing uterine contractions to effect the detachment of the placenta.

Joseph Clarke, who was Master of the Rotunda Hospital from 1786 to 1793, was credited by M'Clintock with having introduced into the Rotunda Hospital the use of manual pressure upon the fundus until the after-birth came away. Clarke's own remarks on the subject, in a Report of the Hospital which he published twenty-four years after he left it, are not very much more explicit than are those of Foster and Dease. He says:—"I have been for some years in the habit, not only of retarding the expulsion of the fœtus in these cases" (*i.e.*, cases of uterine inertia), "but with a hand on the abdomen of pursuing the fundus uteri in its contractions until the fœtus be entirely expelled, and afterwards of continuing this pressure to keep it if possible in a contracted state. . . . . Labours conducted in this manner will be less liable to be followed by retentions of the placenta, by uterine hæmorrhage and by after-pains. In short, the safety and speedy recovery of a puerperal woman is most intimately connected with the

gradual and perfect contraction of the uterus." As a result of this treatment Clarke goes on to say that "in 10,387 cases in the Dublin Lying-in Hospital, only 21 had retentions of the placenta, requiring manual extraction, that is about one in 494."

Collins, who published "A Practical Treatise on Midwifery" in 1835, comes next in the list of Dublin writers on obstetrics. His directions with regard to the management of the placenta are most explicit. "The method which we pursue is as follows:—As soon as the head and shoulders are expelled, the left hand is instantly placed on the abdomen, immediately above the fundus uteri; thus following down, by a steady pressure, this organ as it contracts, so as to bring it as low into the pelvis as practicable, without using violence. We keep up this pressure most diligently from five to ten minutes after the feet are expelled, and when the womb feels firm and well contracted we make the nursetender take our place, until the child is separated and the binder applied. If, however, the uterus does not feel firmly contracted after the separation of the child, we continue the pressure of the hand for some time longer until we have as far as possible effected our object; we then apply the binder." If hæmorrhage comes on, or if the placenta is retained for more than two hours, he further says:—"We must direct steady pressure to be made over the binder and make an examination to ascertain if the placenta be in the vagina or to be discovered at the mouth of the womb. . . . When the placenta can thus be felt and . . . it becomes necessary to remove it, we will find very gentle efforts with the fingers, at the same time making pressure over the fundus uteri, seldom fail in procuring its expulsion." That pressure was the recognised mode of obtaining the delivery of the placenta in these cases is evident from other remarks which he makes in describing cases of hæmorrhage or of retained placenta, especially from the very precise statement—"that in some cases of retained placenta active pressure was sufficient to cause its expulsion."

In 1848, M'Clintock and Hardy published their "Practical Observations on Midwifery." In this work we find the first clear and definite description of the Dublin method,

although, as M'Clintock said some years afterwards in his notes to Smellie's Midwifery, this "way of getting off the placenta . . . has been practised from time immemorial at the Dublin Lying-in Hospital." M'Clintock's description is as follows:—"Having placed the hand on the fundus uteri, friction and slight pressure are to be made, and if the amount of contraction thereby induced is not sufficient to repress the hæmorrhage, it will be necessary to expel the placenta from the cavity of the uterus. In doing this the organ must be grasped firmly, and pressure exerted upon it in the axis of the brim of the pelvis. If the uterus have fallen to the left side, as not uncommonly happens, it must be raised into its natural position before commencing to exert pressure upon it. It will also tend much to the success of the manipulation if it be performed during the presence of uterine action; indeed we have sometimes been surprised at the ease with which the placenta was pressed off during a contraction of the uterus where previously it had withstood our best directed efforts. These measures we have seldom found to fail in getting away the placenta unless it is morbidly adherent. . . . . Perhaps it may be objected that this mode of removing the placenta exposes the uterus to injury, or may entail inflammation or other bad consequences; but without attempting to deny that such might be produced by violent or ill-directed efforts, or from their being continued too long, we can only say that in no case have we observed the practice to be followed by any ill effects; and it must, we think, be conceded that it is immeasurably safer to remove the placenta in this way than by introducing the hand for its extraction." And in another place he says:—"In compressing the uterus for the purpose of extruding the placenta, or getting rid of coagula, it is important for the success of the operation to get the edge of the hand *behind* the fundus, and, grasping the organ, to press *downwards* and slightly *backwards*. Where this is duly attended to it will require little exertion and a very trifling degree of pressure to effect the desired object."

There is only one more extract, dealing with the origin of the Dublin method, which need be brought forward. It

is taken from Sinclair and Johnston's "Practical Midwifery," published in 1858, and containing an account of the management of 13,748 deliveries which occurred in the Dublin Lying-in Hospital between 1847 and 1854. It is obviously impossible that Credé's teaching could have had any effect on the Dublin School at the time this work was written, as, although Credé taught his method clinically from 1853 onwards, he did not bring it prominently into notice until 1860. Sinclair and Johnston write as follows:—"Generally speaking, the placenta was expelled, or, in other words, the third stage of labour was concluded, before a quarter of an hour had elapsed; frequently, however, not for twenty or thirty minutes. Should the placenta have remained even over the period last mentioned, and then have been readily pressed off, or discharged from the uterus after the adoption of simple means, such as cold and friction, the case was not viewed as one of retention of the after-birth. When, however, a considerable period had passed after the lapse of the half-hour, and the uterus had failed in freeing itself of the remainder of its contents, or when the adoption of the ordinary measures had proved unavailing, and the placenta could not be pressed off, the case was considered one of retention."

Here, then, is the evolution of the Dublin method of effecting the delivery of the placenta. It is the same as the method adopted in Dublin at the present day in its principles. Slight changes in the carrying out of these principles have been made from time to time, and will continue to be made, but the method still remains the Dublin method.

In 1853 Credé taught clinically the proceeding which he considered offered the most suitable means of effecting the delivery of the placenta. His words are as follows:—"We apply the hand over the uterus after the expulsion of the fœtus, and confine ourselves to making slight rubbing movements over the greatest extent of the uterus possible; then when we feel the uterus contract, we seize with one or two hands the fundus, and when the contraction arrives at its maximum intensity we press upon the fundus and on the walls of the uterus, at the same time driving it downwards into the small pelvis. All the after-birth and clots

are expelled outside the genital organs, and the uterus comes back to its normal level. To press upon the uterus when it is not in a condition of contraction is a fault, and does not conduce to the required end." If the placenta was not expelled during the first contraction, Credé repeated the same manipulation during the second contraction, and similarly if necessary during the third and fourth.

In 1860 Credé brought his method prominently before the German medical world at a meeting of the Association of Physicians and Naturalists, held in Königsberg, and there he proposed, as a general rule, the principle which had been familiar for many years previously in Dublin, and on which the Dublin method and his own method were based. It is as follows:—"That in the treatment of the last stage of labour the practitioner should seek to effect the expulsion of the after-birth and membranes from the genital cavities by external manipulation alone, without interfering with the cord or introducing the fingers into the vagina" (Eastlake, Obstet. Trans., 1864). And, finally, a few years before his death, and influenced by the teaching of Schroeder, he recommended that the placenta should not be expelled for 30 minutes after the birth of the child.

The amount of confusion which has surrounded the interpretation of the term "Credé's method," as a result of attempting to attach unwarrantable limitations to the use of the term, is well shown by taking a paper which was read by Smyly at the meeting of the British Medical Association in 1885, in conjunction with Credé's words, as given by Smyly, and also in conjunction with a paper by Fisher in the *Russkaya Meditsina* for August, 1886. Smyly says:—"In Credé's method friction and pressure are more actively carried out than in the Dublin method, and so the expulsion of the placenta is hurried." He also quotes Credé as saying—"The uterus should expel the after-birth, and the sooner it does it after the expulsion of the fœtus the better. If it do not do so, it must be made to do so, otherwise it may be too late, and the dangers of retained placenta come into force." Fisher, who was assistant in the obstetrical clinic of Professor Slavianski in Kharkoff, "made a large number of observations with the object of determining the relative advantages in the third stage of labour of Credé's

method of gentle manipulation or massage of the uterus, and the method of forcible expression of the placenta by powerful compression of the uterus." He came to the conclusion that puerperal complications were fewer after Credé's method than in those cases in which the placenta was expressed from the uterus. It is difficult to believe that these sentences can apply to the same method. Smyly considers that in Credé's method "the expulsion of the placenta is hurried" more than in the Dublin method, but Credé finally recommended to wait for thirty minutes after the birth of child before expressing the placenta, while, according to Sinclair and Johnston, the Dublin method effected the removal of the placenta in from ten to twenty minutes. If, as Credé says, "the uterus should expel the after-birth," it must be given an appreciable interval in which to do so, but, if Credé's method is more rapid than the Dublin method, there is no room for any such appreciable interval. If in Credé's method "friction and pressure are more actively carried than in the Dublin method," while at the same time Credé's method is the method of gentle manipulation or massage of the uterus, what are the nature of the manipulations necessary for the carrying out of the Dublin method? According to M'Clintock, the Dublin method requires the uterus to be "grasped firmly and pressure exerted upon it." Finally, if, in Credé's method, the placenta is never expressed from the uterus, what is Credé's method?

It is needless to quote any more of the widely divergent statements which are made by writers in obstetrics as to what does, and what does not, constitute Credé's method or the Dublin method, as it is clearly a case of *quot homines, tot sententiæ*. Still the solution of the question is not very difficult. The Dublin method is the method of pressing or squeezing off the after-birth by external compression of the uterus by the hand. "In doing this the organ must be grasped firmly, and pressure exerted upon it in the axis of the brim of the pelvis. . . . It will tend much to the success of the manipulation if it be performed during the presence of uterine action" (M'Clintock, 1848). Credé's method is the method by which the expulsion of the after-birth from the genital cavities is effected

by external manipulations alone. "We seize with one or two hands the fundus, and when the contraction arrives at its maximum intensity we press upon the fundus and the walls of the uterus at the same time driving it downwards into the small pelvis" (Credé, 1853.) There may be a difference between these two methods. If so, it is a difference which neither Barnes nor M'Clintock was able to recognise. Barnes writes as follows in his "Obstetrical Operations":—"This plan of causing the uterus to contract and expel the placenta by manual compression has within the last few years been introduced into Germany, as a discovery, by Dr. Credé, without a suspicion, apparently, that it had long been a familiar practice in this country. It is insisted on with detail by Hardy and M'Clintock." While M'Clintock in his notes to Smellie's Midwifery says:—"A far safer and more efficacious way of getting off the placenta" (than traction on the cord) "is that which has been practised from time immemorial at the Dublin Lying-in Hospital. . . . . This method, which may be justly called the Dublin method of expressing the placenta, will be found in many cases to obviate the necessity of its manual extraction. . . . Dr. Credé, of Leipzig, brought this method in 1860 prominently under the notice of German accoucheurs, at the meeting of the Association of Physicians and Naturalists held at Königsberg in September of that year."

I have traced the evolution of the Dublin method, and have compared it with the method originated by Credé. There can be no diverse opinions as to which is the older method, and if their similarity is not obvious it is owing to my failure to place the proofs of that similarity clearly before you, and not to the lack of proofs. The last proposition of the three which I started to establish follows consequentially on the establishment of the first two, and only requires to be a little amplified.

The method of effecting the removal of the placenta from the genital cavities by external manipulations, instead of by introducing the hand into these cavities, or by pulling upon the funis, was brought prominently before the notice of medical men in Dublin, twelve years before Credé brought the same method prominently before the notice of

the medical world in Germany. In Dublin the method had been practised clinically at the Dublin Lying-in Hospital "from time immemorial." In Germany Credé had taught its value clinically for seven years. The term "Dublin method" is, therefore, the correct one to adopt in describing that method by which the delivery of the placenta is effected by external manipulations, as opposed to its manual removal or to its delivery by traction upon the funis.

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STRANGULATION.

M. Milliard (*Lyon Médical*), at a meeting of the Société des Sciences Médicales de Lyon, reported the case of a man who came under Professor Poncet's care. The patient, a factory hand, wore a key suspended from his neck by a strong cord, which got caught in the machinery, and was quickly wound round the man's neck. On admission to hospital the trachea was found to be broken, there was complete paralysis, and to all appearance the patient was dead. By artificial respiration and hypodermics of caffein some signs of life were got. In a few days it was found that sensibility and cerebration were unaffected. The urinary and other functions were normal, and eight days after the accident the man had perfectly recovered, with the exception of a slight degree of paralysis.

PART II.

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

The Treatment of Pelvic Inflammation through the Vagina. By William R. Pryor, M.D.; Professor of Gynæcology, New York Polyclinic; Consulting Surgeon, City Hospital; Visiting Surgeon, St. Elizabeth Hospital, New York City. With 110 Illustrations. London: Rebman. Royal 12mo. 1899. Pp. 248.

The book before us is in many ways something completely new. It is written by a man who, as he says himself, operates over the entire country (of America), and speaks *ex cathedrâ*—a man with a perfect confidence in himself, in his opinions, and in what he has been taught by his own experience, and with a consequent disregard for any opinions which do not agree with his. Its keynote is interference—aggressive interference the author calls it; what adjective will be used by others to qualify the word is hard to say. Many will call it courageous, many foolhardy, some unscientific, and in all probability but few will be found to agree in considering it necessary. If the author wishes gynæcologists generally to come round to his opinions he should give statistics in their support. The mere "*dixi*" of anyone, no matter how distinguished, is not sufficient to induce other men to blindly follow his teaching.

Dr. Pryor says:—"Whenever I curette the uterus for sepsis I immediately open the *cul-de-sac*. . . . If the organs are found matted together by lymph they are liberated with the finger. I seek to make this digital exploration and separation of adhesions of the broadest kind. . . . Whenever there is an effusion of lymph there is a contest between the germs and the tissues. Into this contest I desire to enter." Let us take a suppositious case. A patient is confined, and a few days later is attacked by a virulent streptococcic endometritis. The

palliative measures recommended by Dr. Pryor are tried without avail. It is considered to be advisable to curette the uterus. This in itself is proof that the operator, rightly or wrongly, considers the uterus to be still infected. If lymphatic sepsis or pyæmia has not set in, the immediate danger of the case is the risk of a general infection of the peritoneal cavity, the result of the extension of the uterine infection through the tubes. Nature recognises this fact, and she endeavours to close the ends of the tubes to prevent this extension, or even she may shut off the entire pelvic cavity from the abdomen proper—not ideal proceedings we grant, as they leave the patient subsequently functionally imperfect. Instead of allowing this natural process to proceed, we recognise its disadvantages, we open the posterior *cul-de-sac*, and, if no pelvic lymph-exudation has occurred, we carry bacteria straight from the infected uterus and vagina into the peritoneum. If such an exudation has occurred we separate the consequent adhesions, and allow not only the bacteria which we introduce on our fingers to reach the intestines, but also the bacteria which nature had shut into the tubes or the pelvis as the case may be. The pelvis is then packed with iodoform gauze, the end of which is brought out through the opening in the vagina.

This is the proceeding which, we think, in importance dwarfs everything else in the book. Dr. Pryor recommends its adoption, not alone in septic endometritis, but also in chronic gonorrhœal endometritis, acute septic and gonorrhœal salpingitis, pelvic peritonitis from whatever cause, and apparently in whatever stage, and acute inflammation of the ovaries. In his hands, it not only prevents the obliteration and destruction of the tubes, but it unfailingly saves the patient's life.

The gynæcologist who looks for the necessary statistics to enable him to adopt Dr. Pryor's treatment will, we are afraid, be disappointed. We accept with implicit confidence his statement that "I have not lost a patient so treated." But how many patients have been so treated, and how many of those so treated would, in Dr. Pryor's opinion, have died if not so treated? And, further, in how

many cases, in which the tubes were infected at the time the *cul-de-sac* was opened, did the patient subsequently become pregnant? It is absolutely essential to have answers to these questions in order to form an opinion as to the value of the treatment. Even if Dr. Pryor lost no patients, it is difficult to believe that the opening of the *cul-de-sac* in cases of acute infection does not add to the danger in those cases in which the infection has not already reached the pelvic cavity, or, having reached it, has become localised. If the patient could recover without undergoing this additional risk, there must be some very good reason for inflicting it upon her. If the risk is small, and the benefit of the operation in the way of preventing subsequent sterility is certain, then there can be no question as to the value of Dr. Pryor's treatment. Such value can only be decided by statistics, and their non-appearance prevents a due adjudication on the merits of Dr. Pryor's operation.

The work is clearly and explicitly written, the illustrations are good, and the type and general appearance all that could be desired.

Transactions of the American Gynæcological Society. Vol. XXIV. For the year 1899. Philadelphia: Dornan. Pp. xlvii. + 560.

The 24th volume of the American Gynæcological Society is, as usual, full of interesting articles, and well illustrated. It altogether forms a most attractive work. Amongst the articles contributed to it, the first place must be given to the "Report of the Committee Appointed to Investigate the Value of Antistreptococcic Serum in Puerperal Infection." We regret to find amongst their conclusions that "Marmorek's claim that his antistreptococcic serum will cure streptococcic infection does not appear to be substantiated by the results so far reported."

Amongst other papers of interest are an article by Whitridge Williams on "Spondylolisthesis;" by Howard Kelly, on "A New Operation for Complete Tear of the Perineum" (we have noticed that this operation has since

been claimed by Ristine, of Tennessee); on "Kraurosis Vulvæ," by Baldy and Williams; and on "The Management of Surgical Injuries to the Ureters," by MacMonagle.

Transactions of the Edinburgh Obstetrical Society. Vol. XXIV. Session 1898–99. Edinburgh: Oliver & Boyd. Pp. xxiv. + 126.

The volume of the "Transactions of the Edinburgh Obstetrical Society" before us contains an interesting Inaugural Address by Halliday Croom on surgical interference in gynæcology, dealing principally with the failure of operative procedure in malignant disease. There is also a "Retrospect of a Series of Abdominal Operations" by Haultain, in which the statistics of 110 cases are given. His operations, which include all forms of major gynæcological operations, were attended by a mortality of two in 110 cases—a result which is undoubtedly deserving of praise. There is also an interesting article by Ballantyne on the "Present Position of the Pessary in Gynæcological Practice."

Transactions of the Obstetrical Society of London. Vol. XLI. For the year 1899. London: Published by the Society.

We have received the last three parts of the forty-first volume of these Transactions. They are, as usual, most interesting and suitably illustrated, but we cannot see why the Society should inflict uncut pages on their fellows, and readers generally.

Gynæcological Nursing. By G. A. Hawkins-Ambler, F.R.C.S.; Senior Surgeon, Samaritan Hospital for Women; Assistant Surgeon, Stanley Hospital, Liverpool. London: The Scientific Press. 1900. Small crown 8vo.

This is an excellent handbook for gynæcological nurses. It is clearly written, plain and straightforward in its direc-

tions, and not overwhelmed with scientific terms which nurses will not understand. There are only two things in the little book which we actively disapprove. The first is the giving the nurse directions as to how she is to pass a catheter by touch. The second is the directing her to plug the vagina in some cases of abortion in order to check hæmorrhage. Does Dr. Hawkins-Ambler allow his own nurses to pass a catheter by touch in any case? And did he ever see a nurse who could plug a vagina in such a manner as to control hæmorrhage?

Imperative Surgery for the General Practitioner, the Specialist, and the Recent Graduate. By HOWARD LILIENTHAL, M.D., Attending Surgeon to Mount Sinai Hospital, New York City. With numerous original Illustrations from Photographs and Drawings. New York: The Macmillan Company. London: Macmillan & Co., Ltd. 1900.

THIS delightfully printed and richly illustrated small quarto of 412 pages does the highest credit to the skill and taste of the printers and publishers, as well as to the scientific attainments and literary accomplishments of the author. In his preface Dr. Lilienthal tells us that "the practitioner of general medicine who rarely takes up the scalpel; the specialist, whose path seldom leads him to the operating room; and the recent graduate who, though versed in the lore of the books and lectures, has seen but little surgery at close range, are those for whom this work has been prepared. It deals only with the diagnosis and treatment of conditions which demand immediate operative measures, and it presupposes the absence of a surgeon and the impossibility or inexpediency of removing the patient, or of waiting for expert assistance." A skilfully prepared, up-to-date "emergency" volume of this kind forms a text-book of the most undeniably useful type.

The pages which deal with the subject of abdominal surgery are, as might be anticipated, especially worthy of attentive criticism. The diagnosis and "imperative" treatment of all the more important surgical lesions of this cavity are extremely well discussed. The portion which deals with

the surgery of the stomach leaves hardly anything to be desired, and we cannot remember having found the inspiring subject of appendicitis more satisfactorily dealt with in the range of our acquaintance with surgical literature, which is a fairly extensive one.

We unhesitatingly recommend this attractive and instructive volume to the attention of all surgeons, even to the members of the surgical staffs of our largest hospitals.

The Diagnosis and Treatment of Eczema. By Tom Robinson, M.D.; Physician to the Western Skin Hospital. Second Edition. London: J. & A. Churchill. 1900.

This second issue of a good, well-written, practical monograph is introduced to the reader by the following concise "foreword":—"The first edition of 'Eczema' having been exhausted, I am issuing a second, slightly added to, hoping that it may be acceptable and useful to my profession." We have ourselves found it so, and think it will be found well worth perusal by practitioners in general.

Enlargement of the Prostate; its Treatment and Radical Cure. By C. Mansell Moullin, M.D. Oxon., F.R.C.S.; Surgeon and Lecturer on Surgery at the London Hospital; Kate Radcliffe's Travelling Fellow; Fellow of the Pembroke College, and Examiner in Surgery in the University of Oxford; and Hunterian Professor at the Royal College of Surgeons. Second Edition. London: H. K. Lewis. 1899.

In the preface to this second issue of this well-known monograph the author tells us that he has "omitted many of the operations upon the prostate which were described in the previous one. They were chiefly of historic interest. Those which I have retained I know to be of practical value. When this book was first published many of the measures which I advocated in it were new, and some of them were based upon principles which were not generally admitted." We cordially congratulate the author on the success of the revolution in prostatic surgery which he conscientiously organised and

brilliantly conducted to a favourable issue. A good deal of moral courage must have been required to advocate the treatment by "orchidectomy," but the opposition which it first aroused was soon overborne by the peculiarly gratifying results which were so rapidly obtained.

Paralytic Deformities of the Lower Extremities; the Principles of their Surgical Treatment. By E. NOBLE SMITH. F.R.C.S., Edin.; L.R.C.P., Lond., &c.; Senior Surgeon to the City Orthopædic Hospital, and Surgeon to All Saints' Children's Hospital, London. With 51 Illustrations. London: Smith, Elder & Co. 1900.

THIS very tastefully produced booklet of 99 pages approximates in outline and general type of production to the book-fancier's "small quarto, large paper copy." The paper, type, and illustrations are all excellent; and, as the large experience of the author entitles him to a respectful hearing in a special department of his own specialty of *Orthopædics*, the little volume should be carefully read by all practical surgeons.

Mr. Noble Smith is a firm believer in the value of mechanical appliances. He tells us (on page 61) that "there is no disease in which orthopædic apparatus is of more service than in infantile paralysis, and it cannot be applied too early, as it may prevent the development of contractures and deformities." Under the head of "Primary Spastic Paraplegia (Primary Lateral Sclerosis)" we are told that "the spasms are frequently relieved, and sometimes removed by operation on the tendons. There is also often an improvement in the mental condition of the patient following this treatment—a result which may be due to the relief of reflex irritation from lessening or removal of the spasms." This sounds very hopeful. The results which have come within our own personal observation have not been quite so favourable. In "pseudo-hypertrophic muscular paralysis the treatment of the deformities, although beneficial, is not curative. However, the patients derive comfort from operations upon the tendons, and life may even be prolonged by the relief of the contractures." The author's choice of apparatus always

displays sound practical judgment. His present contribution to the literature of orthopædics is an interesting addition to a department which already includes many very curious items. But we do not think it desirable to multiply extracts from this very excellent work. We counsel all practising physicians to purchase and study for themselves.

Nursing in Diseases of the Throat, Nose, and Ear. By Macleod Yearsley, F.R.C.S.; Assistant Surgeon to the Royal Ear Hospital; Surgeon-in-Charge of the Department for Diseases of the Throat, Nose, and Ear, the Farringdon General Dispensary; Hon. Surgeon for Diseases of the Throat and Ear, the Governess's Home, &c. London: The Scientific Press, Ltd. 1899.

The author informs us in his preface that "the articles which formed the basis of this little volume originally appeared in the 'Hospital Nursing Mirror.' They have been much added to, and, in great part, re-written. Two short additional chapters on elementary anatomy and physiology have been placed with them. . . ."

Speaking for ourselves, we feel bound to say that we have found the perusal of this beautifully printed octavo of 113 pages both instructive and interesting. There are 59 excellent illustrations, chiefly of instruments and appliances. An immense amount of information is here to be found, which we cordially recommend, not only to the attention of nurses, but of general practitioners.

Ulcer of the Stomach and Duodenum, and its Consequences. By Samuel Fenwick, M.D., F.R.C.P.; Consulting Physician to the London Hospital; and W. Soltau Fenwick, M.D., Lond., M.R.C.P.; Senior Physician to the London Temperance Hospital; Physician to the Evelina Hospital for Sick Children. London: J. & A. Churchill. 1900.

This splendid monograph should be read by every physician. It deals with every aspect and relationship of its very important subject, and with the most exhaustive thoroughness.

In the present rapidly advancing—we might have said encroaching—movements of surgery in the treatment of so many of the gastric affections which were formerly looked upon as purely medical, the critic almost instinctively hastens to know the views of a leading medical specialist on gastro-intestinal surgery. In the present instance the position adopted by the authors is what might be expected from large-minded physicians.

Under the heading of "Acute Ulcer" of the Stomach we find that of 25 cases operated on between the years 1885 and 1894, the percentage was as high as 80—a result by no means encouraging. Between the years 1894 and 1896, 25 other cases were reported, with a mortality of 29 per cent. And so has surgical perseverance been rewarded, and continues to be, with progressively increasing results. The time of operation in cases of acute (or perforating) gastric ulcer is shown by statistics—as, indeed, it would be guessed by common sense—to be of the very greatest importance. Every minute deferred increases the danger. The writers here tabulate 57 cases in which the perforation was closed by Lembert sutures. The mortality among the cases operated on between 1 and 12 hours after perforation was 33 per cent.; in the cases operated on between 12 and 24 hours after perforation, the mortality averaged 60 per cent.; while in those reported in which the interval was more than 24 hours it was 86 per cent.

Treatment: A Monthly Journal of Practical Medicine and Surgery. Edited by Dr. L. Freyberger; supported by Fletcher Beach, Esq., M.D.; H. Mark Dodd, Esq., F.R.C.S.; C. F. Marshall, Esq., M.D. Vol. IV., No. 1 (New Series), March, 1900. Vol. IV., No. 2 (New Series), April, 1900. London: Rebman, Limited.

This periodical bids fair for an increase of popularity. It is issued in a very convenient form, is well printed, and—very obviously—carefully edited. To those of our readers who have not yet made its acquaintance we feel it to be our duty to convey, from the "Publishers' Announcement," the essential information that it is to be issued "in future as a

monthly journal in the second week of each month, that it will contain 64 pages of reading matter, printed in royal 8vo. The arrangement of text will remain the same as heretofore, with this difference, that each issue will, in the Periscope, comprise all the specialties which formerly were distributed over four distinctive parts. The price of subscription will remain the same."

Under these promising conditions the present numbers have been issued, and, after a careful examination of their pages, we can confidently recommend them as an excellent mirror of the gradual march of scientific progress. The editor and his assistant staff have evidently done their work with conscientious thoroughness, and are accordingly fully deserving of the widest professional patronage. We cordially recommend this periodical to the notice and patronage of our readers.

A Text-book of the Diseases of the Nose and Throat. By D. Braden Kyle, M.D., Clinical Professor of Laryngology and Rhinology, Jefferson Medical College; Consulting Laryngologist, Rhinologist, and Otologist, St. Agnes' Hospital; Bacteriologist to the Philadelphia Orthopædic Hospital and Infirmary for Nervous Diseases; Fellow of the American Laryngological Association, &c. With 175 Illustrations, 23 of them in colour. London: Rebman, Ltd. Philadelphia, U.S.A.: W. B. Saunders. 1899. 8vo. Pp. 646.

This handsome volume, like all those issued by the same publishing firm, is presented to the eye and hand in the most prepossessing form. The contents also exhibit the impression of the hand of a past master of his specialty, and who addresses his readers with the thorough confidence of successful scientific research and the easy acquaintanceship of daily practical familiarity.

As the author tells us in the preface, "considerable space has been devoted to certain diseases which are somewhat rare, in the belief that when information is wanted on such subjects it should be full and complete." We feel grateful to an author who shows so much conscientious care in catering

for professional readers. All of us who have watched metropolitan practice for some years have become sufficiently familiar with the ordinary routine cases to form a definite opinion of our own in most cases. Accordingly, it is when we are brought into contact with the extra- and supra-ordinary cases that we feel so pleased to have a reliable authoritative text-book with whose contents we can reinforce our scanty mental armamentarium—indeed, it is by this feature that the present volume has so specially prepossessed us since the first glance.

The fact that the author has departed from the beaten path in his arrangement of subjects has also given us genuine pleasure. The *contents* are arranged in twenty-four chapters, with the following titles in order:—"Anatomy and Physiology of the Nasal Cavities;" "Illumination and Examination;" "General Consideration and Pathological Alteration of Mucous Membranes;" "Diseases of the Anterior Nasal Cavities" [the same title is repeated over each of the succeeding chapters]; "Neurosis;" "Diseases of the Anterior Nasal Cavities;" "Foreign Bodies in the Anterior Nasal Cavities;" "Neoplasms of the Respiratory Tract;" "Diseases of the Anterior Nasal Cavities" [title repeated over next chapter]; "Related Pathological Conditions of the Nose and the Eye;" "Diseases of the Nasopharynx;" "Diseases of the Uvula and Soft Palate;" "Diseases of the Tonsil;" "Diseases of the Pharynx;" "Diseases of the Larynx;" "Neurosis of the Larynx;" "Intubation of the Larynx;" "Tracheotomy;" "Operations on the Larynx."

The work, as a whole, appears to have been designed for the use not so much of the specialist as of the general practitioner, and we welcome it as such. The specialist has a goodly reference library already within reach, and from such a standpoint we are glad to read clear and concise descriptions of generalised symptoms and cases rather than individual reports. The author deals extremely well with the treatment of diphtheria, and we have derived pleasurable profit from the perusal of the section, which includes the very important clinical subject of the condition of the pharynx in the exanthemata and other febrile conditions.

The larynx occupies a proportionately much smaller space in this volume than the pharynx, and cannot be said to be nearly so thoroughly dealt with; but, upon the whole, we look upon this text-book as a very worthy addition to the literature of an important specialty, and cordially recommend it to the notice of all senior students and general practitioners.

American Pocket Medical Dictionary. Edited by W. A. Newman Darland, A.M., M.D.; Assistant Obstetrician to the Hospital of the University of Pennsylvania; Fellow of the American Academy of Medicine, &c. Containing the Pronunciation and Definition of over 26,000 of the terms used in Medicine and the Kindred Sciences, along with over 60 extensive Tables. London: The Rebman Publishing Co., Ltd. Philadelphia, U.S.A.: W. B. Saunders. 1899.

This beautiful little volume of 518 pages assuredly deserves unlimited professional patronage. It is beautifully printed on India paper, which makes it about the size of the ordinary "visiting list." We have consulted it for the meaning of many new and rare terms, and we have not met with a single disappointment. The definitions are exquisitely clear and concise. We have never found so much information within so small a space, and we most cordially recommend this handy lexicon to the notice of every medical student and practitioner.

Pye's Surgical Handicraft: A Manual of Surgical Manipulation, Minor Surgery, and other Methods connected with the work of House Surgeons and Surgical Dressers. Fourth Edition. Revised and Edited by Bertram M. H. Rogers, B.A., M.D., B.Ch. Oxon. Bristol: J. Wright & Co.

The fact that this little handbook has already entered upon its fourth edition bears ample testimony to its usefulness and to the high opinion entertained of it by junior practitioners and students.

In revising and editing this edition Mr. Rogers has preserved, as far as possible, the lucid style of the late Mr. Pye. The book has now been brought thoroughly up to date, and we have no doubt will rival previous editions in popularity.

A chapter on the X-rays and the taking of skiagrams is added. This will enhance the value of the manual, which is well illustrated and clearly printed. We can confidently recommend its perusal.

The Students' Handbook of the Surgery of the Alimentary Canal. By A. ERNEST MAYLARD, M.B., B.S. Lond.; Surgeon to the Victoria Infirmary, Glasgow, &c. London: J. & A. Churchill.

THIS work is an important addition, in an abridged form, for the use of students and practitioners, to the rapidly-increasing literature of the surgery of the abdomen, a section on the œsophagus being included. The latter, dealing with injuries and morbid conditions of the œsophagus, and their treatment, is a valuable one, and when we say that it comprises 100 out of a book of 503 pages, it will be seen that nothing of importance is omitted.

Part II. deals with the stomach, and includes a well-written article on the surgical aspects of gastric ulcer and its results, with their treatment; indeed this whole section is pregnant with information thoroughly up to date. A special chapter is devoted to operations on the stomach, the more recent and better methods being the only ones described in detail.

Part III. deals with the small and large intestine. In the chapter devoted to typhoid ulceration we should like to see the author distinguish between the signs met with in those cases in which perforation takes place in the form of a "pin-hole" opening, as originally described by Graves, and the others in which the opening is a large rent or irregular hole. The best results from operative interference will certainly be obtained by early operation in those cases of "pin-hole" perforation; as the amount of extravasation is limited, consequently the risks of septic peritonitis will

be less. Hence the importance of recognising the early signs of this special form. No collapse takes place in this variety of perforation, such as will surely be present in the other forms, and which must necessarily delay operation until reaction supervenes.

To look for the classical evidences of perforation as detailed in most of the text-books will be to overlook, until well-marked evidences of peritonitis develop, almost 50 per cent. of cases in which perforation has taken place in the form above mentioned, when operation will probably be too late.

In the chapter dealing with the treatment of appendicitis we notice that the author takes his stand amongst those who content themselves with the expectant line of treatment in acute cases. At the beginning of an acute case no one could confidently say this case will end in resolution, or go on to abscess, perforation or gangrene. The author himself states that the prognosis of operation is best in these acute cases in which it is performed in an early stage, before adhesions have taken place, or before there is much exudation; while the prognosis is doubtful in acute cases, with suppuration more or less advanced, and least hopeful where general peritonitis is present. These data being admitted, why wait until the case drifts into one of these hopeless or less hopeful conditions, and especially as he recognises that operation in the hands of an experienced surgeon, well versed in modern aseptic surgery, is practically free from danger?

The last chapter of this section deals with the operations upon the small and large intestine. An attempt is made to revise the somewhat confusing terminology of operations performed on either the stomach or intestines. The author's nomenclature, if studied, would be found to simplify the subject and remove a good deal of the ambiguity at present existing about these operations.

We should like to draw the author's attention to his description of the method of applying the Czerny-Lembert suture, as well as the diagram illustrative of his description.

Czerny's method, as we understand it, is merely a Lem-

bert's suture with the addition of a row of interrupted sutures, which unite the *mucous membrane* only. The knots of this inner row are turned inwards. The method of introducing this first row is from within, while uniting the first half of the circumference of the intestine, the knots being tied inside the lumen of the gut; while of necessity those uniting the remainder of the circumference of the gut must be passed from without and the knots tied outside. It will be similar in the case of other wounds of the bowel wall, whereas the author says—"Czerny's method consists in passing two separate rows of interrupted sutures around the margin of the cut edges from without, taking up and uniting the free edges of the *serous and muscular coats*, the knots when tied lying without the canal, &c."

The last section deals with the surgery of the rectum, but we think that any article which does not include a description and treatment of such a common affection as that of hæmorrhoids is not complete. In the preface the author excuses himself by saying he does not include either the mouth, pharynx or anus in the task he set himself to do, which was to deal only with the hidden parts of the tract.

The book is well written, clearly printed and admirably illustrated.

The Clinical Examination of the Urine, with an Atlas of Urinary Deposits. By LINDLEY SCOTT, M.A., M.D. London: J. & A. Churchill. 1900. Pp. 56.

THIS is a very creditable piece of work. The author's object has been to prepare a ready reference handbook to the clinical examination of urine. This end he has succeeded in achieving within the narrow limits of some fifty pages of letterpress. The topics with which Dr. Lindley Scott deals in a singularly clear and concise way are: the composition of the urine, its physical properties, its normal and abnormal constituents, its bacteriology and toxic properties, the examination of the urine for life assurance, and the leading characters of the urine in disease. All these topics are treated of in the light of the most recent researches, whether

chemical, physiological, or bacteriological. In connection with the last the author expresses grave doubt as to the existence of a special urea-decomposing organism such as the *Micrococcus ureæ*. He points out the interesting fact that the urine of uræmia is non-toxic—a circumstance which goes to confirm the view that uræmia arises from the retention in the system of various toxins owing to non-eliminative power on the part of diseased kidneys.

We have nothing but praise for the splendid series of plates which form the "Atlas of Urinary Deposits." With the single exception of Plate XXX., which shows certain rare animal parasites in the urine, the plates (forty-one in number) have been drawn from specimens under the author's microscope. Opposite each plate is a page of descriptive letterpress, which is further elucidated by a diagrammatic key to the accompanying plate. The drawings are beautifully clear and true to nature. They include the various urinary crystals, true and false tube-casts, blood, pus, epithelium, spermatozoa, parasites, micro-organisms, and deposits of different kinds in several diseases. We have never seen a better drawing of the urinary sediment in hydatid disease of the kidney than that included in Plate XXVIII. It shows echinococci, hooklets, and portion of a hydatid vesicle.

The frontispiece is a most artistic representation of the colour varieties of the urine. It illustrates the normal pigments of the urine, and also the blood, bile, oxidation, chromogenic and food and drug pigments which are occasionally present in the renal secretion.

In publishing this work Dr. Lindley Scott has done good service. Even if the price—fifteen shillings—is high for medical students, the book is well worth the money. It should be in the hands of every teacher at all events, and would be a suitable work for presentation to all prize winners in our medical schools and at our clinical hospitals.

Transactions of the American Orthopædic Association. Vol. XII. 1899. Philadelphia.

THESE well-bound and clearly-printed Transactions contain an admirable series of papers on orthopædic surgery. There

are many interesting contributions, notably a series of papers on lateral curvature by Doctors Brankett, Truslow, Noble Smith, and William Adams.

Practitioners interested in diseases of the spine and joints will find most valuable material within its covers from the pens of some of the foremost orthopædic surgeons of the present day.

Transactions of the American Pediatric Society. Vol. X. 1898. Reprinted from *The Archives of Pediatrics.*

THESE papers have already appeared in *The Archives of Pediatrics,* and some have been noticed in our columns.

The most interesting papers are—The President's Address by Dr. Emmett Holt, on "The Scope and Limitations of Hospitals for Infants;" the report on "The Collective Investigation on Infantile Scurvy in North America;" "Laryngeal Diphtheria;" and a paper on "The Anæmias of Infancy."

The volume is a selection of the papers from *The Archives of Pediatrics,* and forms a valuable handbook on many diseases of children.

The Diseases of Children: A Manual for Students and Practitioners. By GEORGE M. TUTTLE, M.D., of St. Louis. London: Kimpton. 1900.

OUR opinion of this ornamental volume coincides with the author's statement in his preface—viz., that "no attempt at originality is professed!" Free use of some few text-books on the subject has been made in compiling it for the intended use of students and practitioners. We think the tendency of the present day to compile such books is no advantage to our profession. Better one original article on a single subject than a shelf full of second-hand information. There is no mention of many important diseases of children. For instance, the following are omitted:—"Rheumatoid arthritis," "functional ataxies," "posterior basal meningitis," "idioglossia," "enema rashes," "thrombosis of cerebral sinuses," "habit spasms," "tabes

mesenterica," "achondroplasia," "scurvy rickets:" while "abdominal tuberculosis" and the "croup" series of diseases are not well handled.

If another edition is called for we hope these omissions will be corrected, for they are diseases of children which do not usually occur at other periods of life, and should be specially included in such a volume rather than such ailments as bronchitis or pneumonia, which are common to all ages. The print and paper are excellent, and the binding is very good indeed.

Who's Who, 1900. An Annual Biographical Dictionary. Fifty-second year of issue. London: Adam & Charles Black. 1900. 8vo. Pp. 1092.

An annual publication which has existed for more than fifty years needs little argument to justify its periodical appearance.

The pages of "Who's Who" contain a mine of information of a certain kind, entertaining because it is to some extent autobiographical, interesting because it is biographical and often historical, and in all cases reliable because of the editorial care which has evidently been bestowed upon the present issue of the work. We should add that the medical profession is fairly represented in the book, the price of which is only three shillings and sixpence net.

A Pocket Medical Dictionary, giving the Pronunciation and Definition of the Principal Words used in Medicine and the Collateral Sciences. By George M. Gould, A.M., M.D. Fourth Edition. Revised and enlarged. 30,000 Words. London: H. K. Lewis. 1900. Pp. 837.

We are bound to admit that this Pocket Medical Dictionary not only has been greatly enlarged since we reviewed the first edition in 1893 (see Volume XCV., page 244), but is also much more correct in its definitions than its predecessor of 1892. Its pages now contain "very complete tables of clinical *Eponymic* terms, of the arteries, muscles, nerves, bacteria, bacilli, micrococci, spirilla and thermometric scales."

The term "Eponymic" is defined in the Dictionary itself to be "named after some person." The book ends with a "Dose-Table" brought up to the year 1900 by Dr. A. A. Stevens, A.M., M.D., and a full list of symbols and abbreviations.

Aids to Practical Pharmacy for Medical Students. Adapted for the Examination in Practical Pharmacy of the Conjoint Board, &c., and for General Use. By A. CAMPBELL STARK, Demonstrator on Materia Medica and Pharmacy at St. George's Hospital. Revised according to the Pharmacopœia of 1898. London: Baillière, Tindall & Cox. Dublin: Fannin & Co.

THIS book is intended to replace the author's "Practical Pharmacy for Medical Students," and contains 170 pages, price 2s. 6d. and 2s.

The first impression produced by Mr. Stark's book is due entirely to—1st, a confusion of terms; 2nd, to the limits which the schedule of the colleges imposed upon his work. If pharmacy be taken as a division of materia medica, and a section of medical education and examination, both the teaching and examination in the subject should be limited to the processes of weighing and measuring; special processes—*e.g.*, distillation, filtration, sublimation, &c.; the definitions of the names of the classes of preparations—*e.g.*, "pill" extract, &c.; the structure of the prescription; the reading of prescriptions, and exercises in making up the latter of a typical nature. Such is the view taken of the meaning of practical pharmacy in this country, whether rightly so or not we will not assert. But if our view be correct, Mr. Stark's book contains too little in one direction and too much in another for our purposes.

It is more of a descriptive materia medica of the college schedule than a practical pharmacy in the scientific sense of the term. On page 18 we find acetic acid described, and are told that it is made from wood by destructive distillation, but, on referring back to the introduction, do not find this important process defined. We would suggest to Mr. Stark to revise this portion of his work, and to give defini-

tions of all the processes that are connected with practical pharmacy.

While thus criticising Mr. Stark's book, we admit its general excellence and usefulness in explaining the schedule of the London colleges, and supplying the want of the London students, and consider the title would be better set forth in this way than on the general term of practical pharmacy.

Merck's Manual of the Materia Medica, together with a Summary of Therapeutic Indications and a Classification of Medicaments. A Ready Reference Book for the Physician and Surgeon, containing Names and Chief Synonyms, Physical Form and Appearance, Solubilities, Percentage, Strength, and Physiological Effects, Therapeutic Uses, Modes of Administration and Application, Regular and Maximum Dosage, Incompatibles, Antidotes, Precautionary Requirements, &c., &c., of the Chemicals and Drugs used in Modern Medical Practice. Darmstadt (Germany): E. Merck. 1899.

ALL this in 236 pages, bound in black paper, and about the size of a two-penny exercise book. The book is divided into two parts—1st, The materia medica in actual use by British physicians; 2nd, therapeutic indications for the use of the materia medica, and other agents.

This excellent work should be revised in accordance with the British Pharmacopœia of 1898.

Aids to the Analysis of Food and Drugs. By T. H. PEARMAIN, Senior Analytical Assistant to the Society of Apothecaries, London; C. G. MOOR, M.I.A., F.C.S., F.I.C., Public Analyst for the City of Exeter, Members of the Societies of Public Analysts. Second Edition. London: Baillière, Tindall & Cox. Dublin: Fannin & Co.

THE 200 pages of this book contain valuable and concise information. Where more knowledge is required page and volume of larger works are referred to, as in detection of zinc, tin, &c., in food.

The section on urine is somewhat disappointing. As so much has been written on the subject, the reader expects to get some new views or new tests in reading, and the nitric acid test for albumen is not mentioned, or the distinction that is generally drawn between the nitric acid, heat, and the ferro-cyanide and acetic acid tests.

The notes on the Pharmacopœia are useful, but of necessity not extensive. A rational description and explanation of the steps in the processes for standardising, as carried out in the B. P., would be useful to students.

The Bradshaw Lecture on the Causation of Functional Heart Murmurs. By ARTHUR FOXWELL, M.A., M.D. Birmingham: Cornish Brothers. 1899. Pp. 48.

IN this able and interesting essay the author gives an original and plausible explanation of the murmur which is so commonly heard over the pulmonary region in debilitated subjects. He first gives a very complete description of the character of the murmur and of the area over which it is heard, together with the other changes which may be detected in the heart. Of those the most important is an alteration in the area of cardiac dulness, which, although little extended to the right side, is much raised vertically—"instead of being at the upper border of the fourth left cartilage at its junction with the sternum, it reaches to the middle of the third cartilage," or, in the earlier stages, even higher. The most evident symptom attending this condition is dyspnœa on exertion, and the history often is one of cardiac strain, occurring frequently when the patient's health is below par. *Post mortem* the most important change found is an enlargement of the right ventricle upwards by a dilatation confined almost entirely to the conus arteriosus. This elongation of the conus carries the pulmonary valve up so as to lie generally under the second costal cartilage, and completely explains the extension upwards of the cardiac dulness. Coming to the causation of the murmur, it is shown that it cannot be due to the quality of the blood, as it is often absent in anæmia, frequently present when the quality of the blood is normal, not heard in any other arteries than the

pulmonary, and often develops itself in persons who have suffered from some exhausting disease only when they get up and begin to go about. Further, in a number of highly ingenious experiments made by perfusing fluids through the excised heart it was found that the nature of the fluid used had no influence on the production of a murmur. It is then shown that it cannot be due to mitral or to tricuspid regurgitation, nor to defect in the pulmonary or aortic valves. The only constant abnormality found is the dilatation of the conus and of the pulmonary artery, with a carrying up of the root of the artery, so that in the supine position it tends to lie directly over the bifurcation. It is argued that in this change the cause of the murmur is to be found. "The dilatation of the conus carries the pulmonary artery upwards till the valves are vertically over the bifurcation, which is a fixed point—*i.e.,* it lessens the distance between the two ends of the artery; the artery, therefore, tends to fold itself longitudinally, as does the curly brachial in cases of arterial degeneration. This lack of longitudinal tension to a great extent renders the restraining force of the longitudinal fibres of no effect; hence dilatation, being now prevented by the circular fibres only, is much more likely to occur, and a pouch-like distension to be produced by the systolic inrush of blood; hence eddies and a murmur." These are further favoured by the tendency which the dilated vessel has to become flattened between the aortic arch and the sternum.

A series of experiments are then detailed which were made by perfusing fluid through excised hearts to which was connected a system of tubes. It would lead us too far to describe these experiments in detail, and it would be difficult to make them clear without the accompanying drawings, but by them Dr. Foxwell shows—1, That the murmur in question is always heard after death in a heart over which it was heard during life; 2, that it is never heard after death in a healthy heart; and, 3, that the murmur can be produced after death by locally dilating the conus and pulmonary artery of a healthy heart.

Finally, reasons are adduced to show why in debility the effect should be chiefly felt in the right heart, and why the

right ventricle, particularly the conus, should yield to undue strain.

Such is a bare outline of this most instructive lecture, which we would most cordially recommend to the attention of our readers.

Aids to Materia Medica. Part III. 1. Synthetical Products; 2. Drugs of Animal Origin; 3. Glandular Therapeutics; 4. Serum Therapeutics; Conclusion. By WILLIAM MURRELL, M.D., F.R.C.P.; Physician to the Westminster Hospital; Examiner in Materia Medica, University of Glasgow. London: Baillière, Tindall & Cox. Dublin: Fannin & Co. 1899.

THE titles of the sections in Dr. Murrell's work immediately impress any reader who has the idea of scientific Materia Medica, that the subject is being dealt with by an able exponent. The first section contains thirty-two paragraphs. The name applied to this section—"Synthetical Products"—is, we suppose, in some way justified, as the difficulty on putting a substance like collodion into the same section with, say, phenazone, is very great. Paragraph XXIV. is particularly good, the chemical relations of the analgesic group being explained by good formulæ.

Section II. might be made to include III. and IV. We find under cod-liver oil several elegant methods for administration.

Section IV.—The paragraphs on thyroid, thymus, suprarenal, bone marrow, spinal cord and cerebral, ovarian and prostate gland substances, are in the light of modern research, as are also those on diphtheria, antistreptococcus, antitetanus, antivenereal, mallein, tuberculosis and Coley's fluid. No mention is made of inoculation for enteric fever. This small but excellent book concludes with a pharmacological grouping of remedies.

PART III.

MEDICAL MISCELLANY.

Reports, Transactions, and Scientific Intelligence.

The Epidemic Disease in the Richmond District Lunatic Asylum in Dublin. Report to his Excellency the Minister of Marine by Dr. A. F. Verschuur, Dirig. Off. v. Gez.; and Dr. G. van Ijsselsteyn, Off. v. Gez. 1e kl. Translated by Daniel F. Rambaut, M.D., Assistant Physician and Pathologist, Richmond Asylum, Dublin.

(*Continued from page 380.*)

Not unfrequently the patient becomes, for life, an unfortunate cripple. Dropped feet generally appeared at an early stage. To what extent pressure of the bedclothes may have contributed to this result, for the patients lay constantly in bed, we shall leave undecided. Owing to the fact that some muscles had been affected less severely than others, paralytic contractures must necessarily have arisen. In a few cases the big toe had sunk below the level of the other toes, so that the second toe seemed to be riding on it (marked atrophy of extensor hallucis longus). The muscles of the upper extremity at times also suffered considerably. Many cases, indeed, were not very strongly pronounced; but yet clear instances of dropped wrist came under our notice. In the atrophy of the arms all the muscles shared in the trouble. Nothing appeared to us to indicate that certain muscles—for instance, those supplied by the radial nerve—were peculiarly liable to be attacked, or that other muscles, the supinator longus for instance, enjoyed any special exemption.

Whether the gluteal regions were involved was difficult to decide, owing to the mild course of the last epidemic and the trouble one had in examining the patients. We should be inclined to infer that the muscles of the abdomen and loins suffered; for it was sometimes necessary to lend assistance in order to keep patients in a sitting posture: besides they often fell heavily back on the pillows. This inference is also strengthened by the fact that some of them constantly supported themselves with their hands, and could move forward only when in the sitting attitude.

We saw a female patient with general atrophy of the muscles, and, in addition, ptosis of the right eyelid, external strabismus, and dilatation of the pupil. Clearly, this was a case of polyneuritis with paralysis of the oculo-motor nerve. Such cases, according to Prof. Talma, occur frequently, even without any epidemic form of polyneuritis.

As to the electrical examination of the muscles, it is a matter, apparently, to which less importance is attached in England than in Holland. Dr. Rambaut, who had examined several patients electrically, informed us that, in some cases, he had not been able to obtain contractions in the muscles of the legs, either by the faradic or galvanic current. He mentioned one case where the contraction formula was modified; K. C. C. did not occur first.

To our investigation in this direction we do not attach too much importance. The time was too short, and the electrical instruments were not such as we were accustomed to use. What we did observe, however, we shall communicate. In the cases of two male and one female attendants no irregularities worth mentioning occurred. As to the other female nurse, contraction of the right m. peroneus with 4 M. A. (K. C. C.), and contraction of the left m. peroneus, with 5 M. A. (K. C. C.), no slow contractions. In the case of a girl who had been idiotic from birth, we found, with 6 M. A., insensibility to the galvanic current, not only in the muscles of the legs, but also in the muscles of the hand and the cucullaris; the left sterno-cleido-mastoideus reacted at 5 M. A. (K. C. C.). The sensibility to the faradic current of all the muscles examined in the case of the latter patient was $= 0$.

The atrophied muscles were relaxed to the touch. In a single instance we saw that after a tap with the percussion hammer on the muscles of the calf a slow contraction followed. Of the tendon and skin reflexes only the knee reflex seemed occasionally somewhat increased; but frequently, also, in far advanced cases it had apparently disappeared altogether. Sometimes, even then, it could be obtained by the hand grip of Jendrassik; mostly it could not. After recovery it again returned (see history of Th. G.)

The joints in the parts of the body affected had become unusually relaxed, and passive mobility had been increased to an extraordinary degree. Were the patients lying on their backs one could easily bring the heels against the gluteal regions: we even saw cases in which, when the patient was lying on his face, one could, without exertion, carry the heels against the gluteal region; the heels fell against the nates with an impact, and the legs remained in this position of extreme flexion until brought

back to their normal position. When in the upright attitude, these patients could sometimes stand, but let them be put out of this attitude and they fell (weakness of quadriceps extensor). We also saw one female patient with relaxed joints to which was added *genu recurvatum*, first observed during the progress of the polyneuritis. Not only in the joints of the knee was this relaxation observed, but also in the ankle joints, and by reason of the relaxed state of the lig. arcus pedis even a form of flat foot had been developed. Relaxation of the joints, and their great passive mobility, are easily accounted for on the ground of atrophy of all the soft parts around the joints. To explain the origin of *genu recurvatum* it seems to us that one would be obliged to presuppose atrophy of the cartilages.

Speaking generally, the skin was œdematous from the very beginning. Frequently, long after the characteristic prætibial and other œdemas had vanished, the skin continued thick and stiff to the touch.

Now and then, cases presented themselves showing no œdema; but in reference to these, from the very beginning, the thought was entertained that we might have been dealing with the form of beri-beri termed by some authors the "adipose" variety.

Sometimes diffuse discolorations of the skin were observed which could not be referred to a previous lesion.

The nerves, especially the N. peroneus, were, in the few cases we examined during convalescence, not found to be thickened or painful. These phenomena are said to have been often observed in the 1894 outbreak, especially in the more serious cases. According to Dr. Rambaut, the excitability of the N. peroneus for the galvanic current had often much decreased. Not always, but particularly in 1894, inflammatory and degenerative processes in the peripheral nerves were frequently found microscopically.

The blood of the patients was frequently examined by Professor Scott and others. Professor Scott, in 1894, found, in some cases, micro-organisms apparently identical with those which at the time were pointed out by Pekelharing and Winkler as specific of beri-beri. On continued examination he failed to discover their existence.

The organs occupying the abdominal cavity, at least the spleen, liver, kidneys, presented nothing specific either during life or *post mortem*. *Post-mortem* examination revealed dilatation of the right side of the heart, degeneration of the heart muscle (the muscular tissue of this organ was flabby and degene-

rate—Patrick Manson), further, œdema of the lungs, often hydrops pericardii et pleuræ and anasarca; also inflammatory degeneration of some nerves and œdema of the brain were occasionally found; but, in the case of the insane, the last-named phenomenon may be regarded as of little consequence in reference to the disease in question.

It appears to us no easy task to name the disease at present engaging our attention. What remains certain is, that here we have a polyneuritis manifesting itself in an epidemic form.

We saw a few cases in which it was quite possible that the catching of a cold, or the remaining in a damp, cold apartment, might have contributed to its cause (in overcrowded wards good ventilation is impossible without the production of draughts).

A few cases might be brought under the category of inflammatory œdema (see Professor Talma's article in *Ned. Tydschrift voor Geneesk*, 1894), such as occurs not rarely, sometimes even epidemically; or under the category of a rheumatic affection (myositis, tendinitis, neuritis rheumatica); but these cases were so few as compared with those which constituted the type that they may be regarded as unimportant.

Catarrhal affections were occasionally met with, even in the initial stage.

Diphtheria occurs occasionally in Dublin; and it is well known that, though this disease may manifest rather mild, even almost unobserved angina, still paralysis may be one of its sequelæ. In these epidemics we may eliminate the possibility of such ætiological factors.

Now, as to the ætiology of the disease one fact appeared to us of the greatest importance—namely, that very many cases began with vomiting, diarrhœa, and a rise of temperature during the first few days. Hence arises the thought that a toxic agent may have originated in the gastro-intestinal canal. It is, however, certain that vomiting, diarrhœa, and fever did not, in many cases, precede the other symptoms. It appears to us possible that the epidemics of polyneuritis in the Richmond District Asylum had their origin in an intoxication proceeding from the gastro-intestinal canal. That the symptoms of vomiting and diarrhœa need not be a *conditio sine quâ non* [to such an assumption], is a matter of course.

The question now remains: What was the cause of the intoxication? What was the nature of the poison? Did it lurk in the food or in the drink? Was the poisoning due to the use of amylacea, of which so much has been written and spoken re-

cently? Was it due to toxins of one micro-organism, or of different kinds of micro-organisms? To answer those questions it is necessary to investigate the question—By what known poisons manifestations may be caused similar to those observed in the disease which occurred in the Asylum.

Lead.—The Annual Report of the year 1895 of the Suffolk Asylum urges us seriously to examine this factor. It seemed as if the epidemic that had prevailed in the Dublin Asylum had here been repeated in a most striking manner; the difference was only a difference in degree. According to Dr. Conolly Norman, who had seen the patients in the Suffolk Asylum, the symptoms there, in 1895, were less violent than in Dublin in 1894; it was more like the Dublin epidemic of 1896-1897. Lead was found at that time in the drinking water in Suffolk, and in sufficient quantity to cause such poisoning, and found only where cases did present themselves—namely, in the female department. Dr. Norman, however, informed us that the epidemic has reappeared in Suffolk, even after satisfactory measures had been adopted to prevent lead from again being present in the drinking water.

Moreover, it appears to us strange that among so many patients not even one typical case of lead poisoning had been developed. Further, those muscles which suffer most in lead poisoning showed no special liability to become attacked; and the muscles which in lead poisoning remain free seemed to enjoy no special immunity. The well-known blue edges of the gums did not, in a single instance, appear. No lead colic. No obstinate constipation. The red edges of the gums which are described in the above-mentioned report are also observed in other acute intoxications. Last, but not least, the drinking water of the Richmond Asylum was tested several times for heavy metals, but never was any of them found in it. Also the sample of water which we brought back with us to Holland was found free from those metals.

Arsenic.—The symptoms of arsenic poisoning bear a stronger resemblance to the disease in question. It was not possible for us to decide whether this poison could have played a part here; but we can for certain state that it was not to be found in either food or drink.

Alcohol.—In consequence of our investigation as to the possibility of alcohol giving rise to the symptoms, we can safely assert that such a possibility did not exist.

Farinaceous Poisons.—The food in the Asylum may be said

to have been of good quality and varied. The different varieties of food are of the same kinds as those consumed in other institutions of the city, and by the population of Dublin.

Ergotism, pellagra, acrodynia, and pelada could not, on the ground of the symptoms, be thought of. Moreover, pellagra and pelada are excluded, for maize had never been consumed in the Asylum. So also are ergotism and acrodynia; if from no other reasons, by the fact already mentioned, that the grain used in the Asylum is of the same kind consumed in other institutions and by the people of the city.

Finally, the question remains—Could this disease have been beri-beri? From the point of view that an acutely dilated right heart + anæsthesia of the legs + disappearance of the knee tendon reflex = beri-beri; or, if finding, on examination, œdemas without renal disease + brown atrophy of the heart muscle + degeneration of some nerves, one says it is beri-beri we have to deal with, then, certainly, one is almost justified in believing in the existence of beri-beri, at least as regards a great number of the cases. After an investigation of all the symptoms which occurred in the Asylum disease, and those also observed in beri-beri, possibly with many there will remain but little doubt as to the correctness of the diagnosis.

Let us be allowed to state, as our own opinion, that this disease is not beri-beri such as it manifests itself in our colonies [Dutch]. No affection presents more varied aspects than beri-beri (Pekelharing and Winkler); it is very difficult, nay, even impossible, to say of a given instance, "this is not beri-beri."

All that we observed may possibly be present in beri-beri occasionally; nevertheless, the opinion we have expressed as to the total impression made upon us seems to us to be not without weight. Briefly, we shall give our reasons for this opinion.

I. Never in Holland up to the present time has a building, or even part of a building, been infected by beri-beri, notwithstanding that patients are sent in hundreds every year from the very foci of the disease; and this fact is the more important, since at no time were preventive precautionary measures adopted, nor has a case of beri-beri *de novo* hitherto been observed in Holland. The chance of the transportation of the disease to Dublin and Suffolk as compared with Holland is practically *nil*.

II. Europeans, at first, remain free from beri-beri (Colhoun and others). It is only after they have become acclimatised to the regions within the tropics, generally only after a few months, that they acquire a predisposition to the disease. Considered

from this point of view, the unexpected appearance of beri-beri epidemics in Europe seems something very strange.

III. As is well known, beri-beri mostly attacks men in the full vigour of life. In Dublin, in 1894, the majority of the sufferers were men; but in 1897 more women were affected, and they were of a more advanced age. In Suffolk, in 1895, the disease was exclusively confined to women. There are very few children in the Asylum, and, consequently, they may be left out of question.

IV. The course of the first epidemic in the Richmond Asylum, beginning in the summer, and ending towards winter, agrees fairly well with the course of beri-beri in subtropical lands, such as Japan (Patrick Manson). In this respect, the two last epidemics were far less striking.. The Suffolk epidemic began about the end of December.

V. We now come to the clinical differences. Vomiting and diarrhœa with fever, as initial symptoms, are observed occasionally in beri-beri; but, comparatively speaking, they appeared far more prominently in the disease in Dublin and Suffolk.

VI. The anæsthesiæ were entirely different from those we observed in cases of beri-beri in our colonies. The anæsthetic spots on the legs and elsewhere, which constantly changed their positions, and altered in intensity, often disappearing even within an hour—these with the hyperæsthetic zones do not at all agree with the symptom, so prominent in the East Indies, of anæsthesia or hyperæsthesia over the whole leg. The latter slowly appear and slowly disappear. A hair can be plucked [from the leg] without producing pain, as everyone knows who has lived in or around Atjeh.

VII. In the disease under review the œdema was, indeed. most prominent on the legs; but then, sparing the dorsa of the feet, it frequently formed a manchette. In the beginning, too, it was accompanied by slight œdema over the sacrum and sternum, with a great tendency to anasarca. Here, in point of localisation, there is a difference; for, in the great majority of the beri-beri patients, the prætibial œdema extended to the dorsum of the foot, and anasarca was not well marked. Moreover, the fact that the œdemas frequently disappeared rapidly, the atrophy of the muscles thereby becoming suddenly apparent is not in accord with what has been observed in beri-beri.

VIII. The action of the heart was such as one would expect in beri-beri. One symptom, however, we never observed, notwithstanding that we examined a great number of patients in order to find it—the diffuse heart pulsation. In beri-beri, in the acute stage, if one lays the hand flat over the cardiac region, one ascer-

tains that in 50 per cent. of cases, possibly in more, the area of the normally sharply circumscribed impulse cannot be defined, though a strong diffused pulsation is felt. Some medical men, when through circumstances forced to decide in haste, diagnosticate beri-beri through the clothes, so pronounced is this sign.

IX. The atrophy of the muscles was not such as is found in beri-beri. The muscles of the arms were oftener affected. So many cases of dropped wrist are not generally met with in beri-beri (in Suffolk Asylum this symptom occurred even more frequently than in the Dublin epidemics). Also, the number of patients with atrophied muscles of the legs, relatively speaking, seemed to us uncommonly large. It was with alarm we contemplated the possibility of so large a percentage of unfortunate people afflicted with dropped feet, contractures, and complete paralysis among those who are the victims of beri-beri in our colonies. A wretched state of affairs it would be for the hundreds and thousands who are there attacked by the disease. To carry out the comparison fairly, we would have to add to the typical cases of beri-beri innumerable cases of tachycardia and other abortive forms. The atrophies of the muscles were often much more marked than the state of the organs of the chest would lead one to infer. We saw an insane patient with total paralysis of the legs, moving on his knees at full speed through the corridor, and crying loudly without becoming breathless. His heart and lungs were normal.

X. In beri-beri we never met with, to such a degree, the extreme relaxation of the joints as it occurred in the Dublin epidemic. Only very extensive atrophy of all the soft parts around the joints can explain this phenomenon. In fact this symptom appeared to us to plead rather *against* than *for* beri-beri..

However, Patrick Manson, in his monograph on beri-beri, lays emphasis on the relaxed state of the joints. He also describes anæsthetic patches of the skin of the legs, and similar spots over the body. He does not make any definite statement as to their duration and variability. He mentions paræsthesia similar to that observed in Dublin, great hyperæsthesia over the tibial region, even on a slight touch, and a frequent occurrence of paralysis and contractures as a persistent residuum.

We do not consider it improbable that beri-beri may present a type different from that of our colonies. Such is known of other diseases due to degeneration of the nerves. For instance, the gangrenous form of ergotism manifested itself mainly in western Europe, whereas the spasmodic form occurred most

frequently in eastern regions; yet, both forms sprang from a common cause.

We repeat what has been already said, that the Dublin disease should be considered as a variety of polyneuritis. But, between this particular form of polyneuritis and that called beri-beri in our colonies, there exist marked differences.

Owing to the brief time that was at our disposal for investigation, we have not been able to decide as to what was the cause of the epidemic in the Dublin Asylum: nor have the physicians there been able, up to the present, to determine it. This is not a matter to be surprised at. The causes of polyneuritis are manifold; to decide for every epidemic which of the known causes has originated it, is, indeed, a very difficult task. Nor should it be forgotten that one may conceive causes of polyneuritis, hitherto unrecognised.

Though different in the combinations of their symptoms, in order to be able to decide whether the two diseases—that in our colonies and that seen in the Dublin epidemic—are, in reality, of a like nature, it would be necessary to know how both are caused. "True knowledge is the knowledge of causes" (Het ware kennen is het kennen der oorzaken).

What was the cause we did not ascertain in Dublin; but that alone could justify a final decision. From our observation all we can say is, that the beri-beri which occurs in our colonies creates a totally different impression from that brought home by us from Dublin.

Psoas Abscess treated by Pelvic Trepanning. Translated by GEORGE FOY, M.D., F.R.C.S.I.; Surgeon to the Whitworth Hospital, Drumcondra.

DR. G. GAYET (*Lyon Médical*), in a recent discussion of the Société de Chirurgie de Lyon, drew attention to the small number of cases of trepanation of the pelvis for psoas suppuration on record. The operation is an old one. Marnie recommended it, and Boucher performed it for the first time for an iliac suppuration of traumatic origin, in 1779. In a moment of forgetfulness Professor Ollier (*Traité des res*) ascribed the credit of the operation to M. Goullioud. The credit of introducing the operation as a remedy in the treatment of psoas abscess is, however, due to M. Gangolphe, who taught the merits of this useful operation. He studied it on the cadaver, and was the first to perform it for the treatment of psoas abscess. He revived it in 1886, and by so doing gave a theme for

M. Condamins' thesis in 1888, in which the details of the operation are given and its excellence told.

M. Jeandidier now devoted himself to the study of the operation, and on searching medical literature he found four cases. The two first of these were published by M. Gangolphe, the third case was that of M. Cassiopoli, and the fourth was by M. Ruatte, military surgeon, which appeared in the thesis of M. Jeandidier. A few other cases have been published—notably M. Forgue's three cases that are named in the *Traité de Therapeutique Chirurgicale*—which are stated to have been successful, but no details are given.

This scantiness of literature on the subject is our reason for publishing the following case :—The woman, X, aged thirty-nine years, entered the clinic of M. Ollier, then under the care of M. Gayet, on the 6th of September, 1899. The patient had had eight children, of whom two died during infancy. She enjoyed good health, and her antecedents had nothing noteworthy. Three months previously she had a bad confinement, and was delivered artificially. The same evening she felt ill, and had a shivering fit, withal she had no rise of body heat. Fifteen days afterwards she complained of a pain in the outer surface of her thigh. Little by little the leg flexed on the belly, and at the same time rolled outwards. Marked flexion of the leg lessened the pain, but extension was impossible. This condition persisted with an access of fever, and gradually there came forward a tumour, under the ligament of Poupart, on the same side (the right).

Examination now revealed the presence of a large abscess, which extended from the lower ribs along the loins, pelvis, and front of the thigh. Vaginal examination also strengthened the diagnosis of a post-puerperal psoas abscess. The evening temperature was 104° F.

M. Gayet operated on the patient the day after her admission. An incision was made in the tumour parallel to Poupart's ligament and immediately below it. There poured out about two pints of pus and grumous reddish matter. On the introduction of the fingers into the sac the psoas muscle was found to be softened and infiltrated with pus. Passing the fingers beneath the ligament of Poupart the fibrous tissue and vessels were felt quite bare of covering, and pus channels were formed in the interstices of the muscle tissue. In the iliac fossa the bone tissue was found almost uncovered with muscle. Drainage was established, and the ilium was trepanned midway between the anterior superior spinous process and the posterior. The button of bone was raised and the periosteum incised. A canula was plunged into the abscess sac,

and gave exit to a large quantity of purulent matter. Incision was now made in the fascia lata of the thigh, and thorough drainage was established—two tubes passing through each orifice. That evening the temperature fell to 100° F. The temperature fell to normal and remained so until the 20th of September, when it suddenly reached 104° F. in the evening, falling to normal in the morning; and in this manner the temperature curve followed the cathedral chimes from morn to midnight and from midnight to day dawn. The abscess sac was daily washed out, and the purulent discharge almost ceased. About the eighth day after, œdema of the calf of the right leg was noticed, which was thought to be due to phlebitis. The limb was now placed in a Bonnet trough, and the daily dressing of the abscess was discontinued. The temperature once more became normal. On the 6th of October following, the temperature once more rose, and in the evening of the day reached 101·4° F., following to normal next morning.

About the middle of the month the patient's husband came and brought her away, absolutely refusing to allow her to remain. On leaving the purulent discharge had ceased, the sac was almost obliterated, but the phlebitis was not wholly cured. From a letter from her husband we learn that the patient died on the 29th of November, 1899.

Such is the impartial account of the case. Our non-success impairs the record of success of the operation. In five cases of psoas abscess treated by incision only all recovered; in five treated by iliac trepanning three died, and only two lived. The figures are eloquent; but to judge them fairly we must rigorously compare the cases before we dare to pass judgment. Above all, we must eliminate all fatal cases which are in no sense due to the operation. In one of the reported cases death resulted, two hours after the operation, from collapse. M. Jeandidier points out that occasionally the operation may be unduly prolonged by an abnormally thick ilium. This condition of the bone is so exceptional that it may not be seriously included in the list of objections to the treatment. In advocating an operation we are bound to think is it well adapted to its case, does it offer a reasonable prospect of success, is it free of the more serious dangers that beset some major operations performed for the same purpose; lastly, are the clinical results such as justify its use? Logically the operation of Gangolphe certainly is. The researches of that surgeon and M. Condamin are decisive on the point.

We have shown that the act of trepanning the ilium is easy of performance. Condamin makes an incision down to the bone at a

point midway between the anterior and the posterior superior iliac space, rapidly drawing apart the fibres of the gluteal muscles, and also the fibres of the external layer of periosteum. Then, with a few blows of a gouge or a few turns of a trepan, the portion of bone is severed. The whole time occupied in the operation does not exceed five minutes, and in one case was somewhat less, and is free of danger.

What is the answer of the clinical results? Our patient is dead, and our non-success goes to discredit the operation. Was the death due to the operation? The evening of the day the bone was trepanned the temperature fell from 104° F. to 100° F., and finally reached normal, at which it remained some days, and the suppuration gradually lessened. Suddenly, on the thirteenth day, the temperature rises, provoked by the irritation of the daily dressing of the wound. When the limb was made immobile the temperature again falls until the normal is reached. Then the patient is removed from hospital—with phlebitis uncured, wounds unhealed, drainage tubes open—removed from all hospital assistance. What complications, what secondary infections may not have surged up in this broken-down patient. Devoid of all surgical care she yet resisted death until the end of November. I believe that had the woman been placed in favourable conditions she would have recovered.

Psoas abscess is terribly infectious. M. Gangolphe's first patient got phlebitis. We have seen infection from the abscess pass gradually along, or, as in other cases, infect the remote joints, the psoas muscle of the opposite side. We have found it give rise to septic emboli, which became centres of septic inflammation.

We admit that trepanation is not always called for; there are cases where a simple incision is all that the case calls for. It is with them as with cases of submaxillary adeno-phlegmons, which an incision of ten centimetres will suffice to cure. But when there is a vast pouch of purulent matter, as in the case cited, incision is not enough—trepanation of the pelvis is called for. It is a simple operation, well thought out; easy of performance, giving good results at once—one I shall adopt should another extensive psoas abscess occur in my practice.

[The clinical results of the operation are more favourable than even Dr. G. Gayet seems aware of. M. Terrillion reports two successful cases (*Med. Press and Cir.*), November 20th, 1889, and Mr. A. F. M'Gill (*Lancet*), April 3rd, 1890, reports a successful case. Dr. Neale, in his excellent "Digest," also refers to a case in the *Med. Rep.* for 1884.]

ROYAL ACADEMY OF MEDICINE IN IRELAND.

President—Edward H. Bennett, M.D., F.R.C.S.I.
General Secretary—John B. Story, M.B., F.R.C.S.I.

SECTION OF MEDICINE.

President—J. W. Moore, M.D. Univ. Dubl., President of the Royal College of Physicians of Ireland.
Sectional Secretary—R. Travers Smith, M.D. Univ. Dubl.

Friday, January 26, 1900.

The President in the Chair.

Exhibits.

Dr. R. Travers Smith exhibited a case of ataxic paraplegia and a case of amyotrophic lateral sclerosis.

Papers.

Bronchotomy in Croup, Diphtheria, and Allied Medical Conditions.

Mr. H. Gray Croly detailed the symptoms of a case of diphtheritic inflammation of the larynx and trachea in a child, two years old, admitted recently into the City of Dublin Hospital (detached Drummond Hospital for infectious cases) under the care of Sir George Duffey, Senior Physician to the Hospital. Sir George was summoned to the Hospital about 10 o'clock p.m. He found the child in a most critical condition—urgent dyspnœa, lips bluish, signs of collapse. With much difficulty the fauces were examined. The tonsils were considerably swollen, and there was some evidence of a whitish patch on one side. Mr. Croly was sent for, and arrived quickly at the hospital. The question of tracheotomy was discussed, and the consent of the father of the child was obtained. High tracheotomy was performed; the child got immediate relief, and fell into a peaceful sleep. At 4 o'clock a.m. the little patient became very restless, gradually got worse, and died about 10 30 a.m., within twelve hours of the operation. The larynx and trachea were removed in a few hours, but no further examination was made. The larynx and trachea, with the silver tube *in situ*, were exhibited. The epiglottis was thickened and hard; the folds at the entrance of the larynx considerably thickened. On opening the windpipe a bluish false membrane easily detached was found at one side. Mr. Croly gave a sketch of the history of tracheotomy in such cases from the time of Hippocrates, and read extracts from

the writings of Professor William Henry Porter, Trousseau, Cheyne, Millard, and Peters. He quoted the statistics of Peters (in Trousseau's Medicine), fifteen operations on girls between two and three years, and eleven operations on boys of same age; *all were fatal.* The largest proportion of recoveries was in children over five years.

Mr. Croly exhibited some fine specimens of membranous croup from the Museum of the Royal College of Surgeons. He also showed some trachea tubes, and made some practical suggestions on the shape of the tube with a view of preventing irritation, and advocated strongly the high operation, which is so much easier and safer than the deep operation.

The President (Dr. J. W. Moore) said there were, he understood, three affections of the larynx attended with evidence of obstruction to the breathing. First, laryngismus stridulus, a purely spasmodic affection. Then, a very rare condition, croupous laryngitis, analogous to croupous or plastic bronchitis. To the third condition, diphtheria of the larynx, they must refer most of the cases formerly described as croup. His experience was that two micro-organisms were concerned in the production of diphtheria—namely, the Klebs-Löffler bacillus and the streptococcus; and in some recent cases in the Meath Hospital of what was undoubtedly diphtheria, the former micro-organism was conspicuous by its absence. That these were diphtheria, and of a malignant type, was proved by the fact that there were three fatal cases out of six. Four of these cases were examined bacteriologically, but in not one was there a culture of the Klebs-Löffler bacillus obtained, but in two of them Oertel's streptococcus was found. He presumed that what Trousseau meant by malignant diphtheria was diphtheria after the development of the constitutional symptoms as distinguished from the merely local disease.

Dr. E. H. Taylor did not agree with Treves' statement that there was no danger in cutting the isthmus, for on injecting the gland large vessels were found crossing in the isthmus.

Professor E. H. Bennett did not concur in Mr. Croly's recommendation of taking out a piece of the trachea, because he knew of a man of great skill, now dead, who in taking out a piece of the trachea took out a portion of the innominate artery. He preferred a straight simple incision in the middle line.

Dr. O'Carroll gave an analysis of cases in the Hardwicke Hospital. They had 101 cases labelled diphtheria in the last year. In 47 of these the Klebs-Löffler bacillus was found, in 46 it was not identified, and in the remaining 8 cases, for some reason or

other, no examination was made. There were 17 tracheotomies done, with 11 deaths and 6 recoveries. The cases below two years of age were not successful when operated on, this fact bearing out Mr. Croly's observation. Dyspnœa in long-standing cases was due to the development of broncho-pneumonia and obstruction of the smaller tubes. Only one or two of those cases in which no Klebs-Löffler bacillus was found died, and they were cases of malignant local gangrenous sore throat, possibly diphtheritic or post-diphtheritic. In those, also, there were other infections, streptococcus and staphylococcus. Tracheotomy was useful in giving the patient a longer time to avail himself of the ordinary aids to recovery. In the Hardwicke Hospital they were fond of large doses of the antitoxin, giving to patients three years old at least 3,000 units. Calomel fumigations and swabbing out of the throat locally were also adopted.

Dr. Parsons said that the expression "membranous croup" was a most unfortunate one, as they did not know exactly what the older writers meant by it. It seemed to him a pity to place the cases in the Meath Hospital, in which no Klebs-Löffler bacillus was found, under the name of diphtheria. The term diphtheria should be limited to Klebs-Löffler cases, for if they included under this heading every disease with a false membrane, they would not be able to compare results. He took it that the anti-diphtheria serum was useless in streptococcus cases, for what they wanted then was anti-streptococcus serum, which had not yet been proved satisfactory. There was nothing to be learned from past records of surgery since they did not know exactly what disease was meant, and also there was no antitoxin to use them.

Sir George Duffey, Dr. Knott, and Mr. G. J. Johnston also spoke, and Mr. Croly replied.

The Section then adjourned.

SECTION OF OBSTETRICS.

President—A. V. Macan, M.B.

Sectional Secretary—John H. Glenn, M.D.

Friday, February 9, 1900.

The President in the Chair.

Exhibits.

1. Dr. R. A. Flynn—Parovarian cyst removed by vaginal cœliotomy.

Dr. Macan inquired if there were adhesions, to which Dr. Flynn replied in the affirmative.

Dr. Lane asked what were the symptoms the patient complained of?

Dr. Flynn, in reply, said that before he did the operation the patient came to him suffering from menorrhagia, which he relieved by curetting. She suffered a good deal from pain in her back, which seemed to get worse after operation. She also complained of pain about the umbilicus.

2. Dr. E. Hastings Tweedy—Ovarian cyst removed by cœliotomy.

Dr. A. Smith asked if the state of the kidneys was ascertained when the abdomen was opened?

Dr. Kirkpatrick said he examined this patient's urine on several occasions, and what occurred to him was that possibly it was a case of tuberculosis of the pelvis of the kidney. The urine, however, was stained for tubercle bacilli, but none were found. The only formed elements in the urine were some large transitional epithelium cells. There were a few crystals, but no casts or pus cells.

Dr. Hadden asked what was the reaction of the urine?

Dr. Macan said it seemed to him possible that the albuminuria might be caused by a tumour with a long pedicle. The question now was whether it was long enough from the last attack of bloody urine to show that the operation had a good effect on it. The albumen was from the kidney, as she had no cystitis.

Dr. Tweedy, in reply, said the urine was always acid, and of low specific gravity. Owing to the large amount of water which she drank she passed a good deal of urine daily. At the time of operation he was reluctant to put his hand into the opening in the abdominal cavity to ascertain the state of the kidneys, but he afterwards regretted not doing so. There was only a trace of albumen in the urine at present, which seemed to him to be due to a slight cystitis. There had been no blood in the urine since before the operation had been performed in December last. The operation wound healed by first intention, and the patient was now up every day.

3. Dr. Macan—Double ovariotomy, with papillomatous cyst.

A pathological report on the case was read by Dr. Earl.

Dr. Smyly asked if Dr. Earl had mentioned that the tube was papillomatous on the right side, as there was a warty growth present not unlike this condition.

Dr. Earl replied in the negative.

Pathological Ovary, with Microscopic Sections.

4. Dr. Alfred Smith showed an interesting pathological ovary which he removed from a patient, aged twenty-five, who enjoyed good health up to Christmas, 1899, when her abdomen began to get distended. She rapidly emaciated, was extremely weak, and on admission into hospital no diagnosis could be made, the distension from the free ascites was so great. Exploration revealed the omentum to be quite solid, mobile, confined to the upper abdomen, and in appearance like boiled sago grains; it bled easily. The left ovary was normal; the right ovary was of normal size and consistency; showed in the fresh state numerous small whitish warty elevations, not unlike in appearance grains of boiled sago, identical in appearance to the omentum. Microscopic examination showed that these growths consisted of a delicate stroma, containing in its meshes, in a somewhat alveolar arrangement, groups of large globular degenerate-looking cells. The nucleus was eccentric, and flattened against the cell margin; in many cases it was broken up and absent, whilst the protoplasm, containing many oil droplets, yielded the typical fatty and mucoid reactions. In parts the growth seemed to be converted into true fat. It sprang altogether from the surface of the ovary, and did not infiltrate the subjacent tissues. The section of omentum gave same characteristics.

Dr. Goulding asked what was the nature of the fluid that was in the abdomen; was it blood-stained?

Dr. Smith, replying, said it was a light brown, or straw-coloured fluid, but it contained no blood. It poured out quite easily.

Clinical Report of the Rotunda Lying-in Hospital for 1898–1899.

Dr. Purefoy suggested that his Report should be taken by the meeting as read. [It will be found at pages 186, 261, 331.]

Dr. A. Smith asked that the most interesting parts should be selected and read.

Dr. W. Smyly supported Dr. Smith's suggestion, and said he would object to discussing a paper that was not read.

Dr. Purefoy said that the subjects which seemed of interest to him might not prove so to the meeting. Before this, discussion had taken place on papers that were not read.

Dr. Smith said that, as well as he recollected, Dr. Smyly's Rotunda Hospital Reports had been read, and Dr. Macan's Report, when he was Master of the Hospital, had also been read.

Dr. Macan pointed out that there were a number of people present who had not got copies of the Report.

Dr. Jellett said that the reading of this and the gynæcological report, and the discussion of them, would occupy the remaining three meetings of the Section.

Dr. Purefoy then read Cases I. and II. from page 16 of the Rotunda Hospital Report.

Dr. A. Smith criticised the absence of the date of entry into and departure from hospital of patients. He pointed out that a new expression (mixed hæmorrhage) had been introduced as a form of accidental hæmorrhage, and he considered the use of this term a mistake, as it was quite unnecessary. It was curious that several of these accidental hæmorrhages occurred rather early in pregnancy. He pointed out cases occurring in the 8th, 7th, and 6th months, and he thought it was not proved satisfactorily that these were really cases of accidental hæmorrhage. The statement as to the exact value of the plug and binder in cases of accidental hæmorrhage was too dogmatic. As to the time of application of the forceps, the former teaching of the Rotunda Hospital was, he thought, after four hours in the second stage. He considered it a great improvement that the time test had been left out in the present Report, the indications laid down being dangers on the part of the mother. There was a case of locking of twins recorded, but on reading the account he could not agree that they were locked at all in the ordinary sense. On page 12 of the Report the serre nœud was stated to have been employed in a Porro's operation. He himself would not think of using a serre nœud at all, and he did not see why they should go back to the old Porro's operation when they had modern methods of doing it. He congratulated Dr. Purefoy on the mortality, which was very low, and on the state into which he had brought the morbidity of the house. The hospital still maintained its high position among similar institutions.

Dr. W. J. Smyly pointed out a case of threatened eclampsia just commencing labour in which two bougies were passed into the uterus. They were taught hitherto that one of the fundamental points in the treatment of eclampsia was to avoid any source of reflex irritation, and he, therefore, considered it bad practice to try to induce labour by bougies in eclampsia. Whether it was *post hoc* or *propter hoc*, the patient whose case he was discussing had her first eclamptic seizure some hours after the introduction of the bougies. He agreed with Dr. Smith in deprecating the use of the expression mixed accidental hæmorhage, inasmuch as there was no form which was altogether external, and internal hæmorrhage was the only form which might not be mixed. Coming to the three cases of

inversion of the uterus, it was a curious fact that when any rare case occurred they got three of them. That was a well-known rule in hospitals. There were also three cases of embolism in this Report. The indications for the forceps should be danger to the mother or danger to the child. When he was Master of the Rotunda he determined to follow that rule, and the result was that he had only twenty forceps cases in the house. If this rule was still followed, he asked why there were forty forceps cases one year and only twenty another year? The forceps had been applied in six cases of pelvic deformity. The interesting point was to know whether they had been put on before the head had passed the brim or afterwards, but this was not stated. All through the Report he found little imperfections which seemed to show that it had been carelessly put together. At the top of page 6, in the case of a woman who had died of convulsions, the left lobe of the liver was said to have shown microscopically the usual patches of hæmorrhage, having no connection with any vascular system. He had never heard of "hæmorrhage having no connection with any vascular system." There were five or six cases of deaths which were attributable to ignorant midwifery, and it was a terrible thing to think that, in the City of Dublin, with three large maternity hospitals, and Sir Patrick Dun's Extern Maternity, where nurses were properly trained, lives should be lost through the attendance of absolutely ignorant women.

Dr. Kidd said that they need not pay attention to the clerical errors appearing in the Report. Referring to the treatment of complete inversion of the uterus, he thought that the rule taught in Dublin and elsewhere was that they should replace, first, those parts which came down last, and not to press upon the centre of the fundus that had been prolapsed. It was stated in a case of rupture of the uterus that strips of iodoform gauze 10 yards long were passed through the rent in the uterus into the abdominal cavity. This seemed to him an extraordinary length, but, perhaps, it was a clerical error.

Dr. Jellett, speaking of the treatment of abortions, remarked the number of cases in the house that were curetted was nearly 50 per cent. Though he could not say that the curetting had led to any bad results, he thought they would do harm if they sent out men with the idea that 50 per cent. of abortions required curetting. The same idea had occurred to him as to others regarding the term mixed hæmorrhage, but certain German writers divided accidental hæmorrhage into concealed, external, and mixed, the last meaning cases in which there was sufficient of both concealed and of external hæmorrhage. In a case of funis presentation the child was

perforated, because version could not be done owing to the indications of threatened rupture. After perforation the woman was allowed to lie for several hours to deliver herself, and he asked what was the reason for this new departure in Rotunda treatment.

Dr. Tweedy, referring to a case of hæmatoma on page 8, described as a very rare condition, said it appeared to him that hæmatoma of the cervix was a condition that occurred before the os was fully opened, and before the presenting part had passed through the cervix. Winckel mentioned it as one of the causes of decrease in size of the os. He did not think that this condition of large anterior lip of the cervix protruding through the vulva came under the head of hæmatoma, but if it did, he thought it the commonest of all accidents.

Dr. Macan said that, though the mortality and morbidity results were very good, he agreed that most of the cases had been reported in such a way as to leave the important points out. As far as the external department went, he joined in the chorus against sending men out, believing that 47 per cent. or so of abortion cases required curetting. He did not know how an old cervical laceration, unless there was extensive erosion, could cause post-partum hæmorrhage. Speaking of the treatment of accidental hæmorrhage, he could not say that plugging the uterus or vagina was at all a good treatment, for if the membranes were ruptured, and they plugged, they only made an external hæmorrhage internal. He commended the term mixed hæmorrhage, because they might have not only an external and an internal hæmorrhage, but also a slight external hæmorrhage with marked symptoms of internal hæmorrhage, which might then be termed mixed. As regards the cases of pelvic deformity, there should have been more definite data given as to the nature of the deformity in each case.

Dr. Purefoy said that owing to the advanced hour of the evening he would like to defer his reply until the next meeting of the Section.

The Section then adjourned.

SANITARY AND METEOROLOGICAL NOTES.

Compiled by Sir J. W. Moore, B.A., M.D. Univ. Dubl.;
P.R.C.P.I.; F. R. Met. Soc.;
Diplomate in State Medicine and ex-Sch. Trin. Coll. Dubl.

Vital Statistics

For four weeks ending Saturday, April 21, 1900.

The deaths registered in each of the four weeks in the twenty-three principal Town Districts of Ireland, alphabetically arranged, corresponded to the following annual rates per 1,000 :—

Towns, &c.	Weeks ending				Average Rate for 4 weeks	Towns, &c.	Weeks ending				Average Rate for 4 weeks
	Mar. 31	April 7	April 14	April 21			Mar. 31	April 7	April 14	April 21	
23 Town Districts	32·8	26·4	25·6	24·8	27·4	Limerick -	98·2	26·7	25·3	36·5	46·7
Armagh -	28·5	64·1	21·4	35·6	37·4	Lisburn -	34·1	17·0	8·5	21·3	20·2
Ballymena	0·0	22·5	22·5	22·5	16·9	Londonderry	26·7	6·3	20·4	33·0	21·6
Belfast -	25·6	26·0	21·6	18·0	22·8	Lurgan -	41·1	22·8	0·0	13·7	19·4
Carrickfergus	11·7	29·2	17·5	17·5	19·0	Newry -	24·1	36·2	8·1	32·2	25·1
Clonmel -	43·8	9·7	19·5	9·7	20·7	Newtownards	39·7	22·7	34·0	17·0	28·3
Cork -	22·8	33·2	29·1	34·6	29·9	Portadown	55·7	18·6	24·7	43·3	35·6
Drogheda -	38·0	53·3	19·0	3·8	28·5	Queenstown	11·5	28·7	28·7	34·4	25·8
Dublin - (Reg. Area)	35·2	28·3	33·4	29·4	31·6	Sligo -	15·2	10·2	30·5	10·2	16·5
Dundalk -	92·1	12·6	16·8	12·6	33·5	Tralee -	83·9	22·4	11·2	5·6	30·8
Galway -	18·9	26·4	26·4	15·1	21·7	Waterford	23·9	15·9	21·9	43·8	26·4
Kilkenny -	33·0	18·9	4·7	28·3	21·2	Wexford -	27·1	27·1	31·6	9·0	23·7

In the week ending Saturday, April 21, 1900, the mortality in thirty-three large English towns, including London (in which the rate was 20·6), was equal to an average annual death-rate of 21·3 per 1,000 persons living. The average rate for eight principal towns of Scotland was 21·0 per 1,000. In Glasgow the rate was 21·4. In Edinburgh it was 18·4.

The average annual death-rate represented by the deaths registered during the same week in the Dublin Registration Area and in the twenty-two principal provincial Urban Districts of Ireland—exclusive of deaths of persons admitted into public institutions from without the respective districts—was 24·8 per 1,000 of their aggregate population, which, for the purpose of this return, is estimated at 1,062,188.

The deaths from the principal zymotic diseases registered in the 23 districts during the week were equal to an annual rate of 1·3 per 1,000—the rates varying from 0·0 in seventeen of the districts to 4·5 in Wexford. Among the 124 deaths from all causes registered in Belfast are one from measles, one from whooping-cough, one from diphtheria, 5 from enteric fever, and 2 from diarrhœa. The 50 deaths in Cork comprise one from typhus and one from diarrhœa.

In the Dublin Registration Area the births registered during the week amounted to 225—109 boys and 116 girls; and the deaths to 204—104 males and 100 females.

The deaths, which are 19 over the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 30·4 in every 1,000 of the population. Omitting the deaths (numbering 7) of persons admitted into public institutions from localities outside the area, the rate was 29·4 per 1,000. During the 16 weeks ending with Saturday, April 21, the death-rate averaged 38·0, and was 6·0 over the mean rate for the corresponding portions of the ten years 1890–1899.

Twenty-five deaths from zymotic diseases were registered, being 3 over the number for the preceding week, and 2 over the average for the 16th week of the last ten years. They comprise 2 from measles, 4 from influenza and its complications, 2 from whooping-cough, 2 from diphtheria, 3 from enteric fever, 3 from diarrhœa, and 5 from meningitis.

Six cases of scarlatina were admitted to hospital during the week, 13 were discharged, and 80 (exclusive of 20 patients in Beneavin, the Convalescent Home of Cork-street Fever Hospital) remained under treatment at the end of the week. No death from this disease occurred; the number of cases under treatment on Saturday was 7 less than on the previous Saturday.

Five cases of enteric fever were admitted to hospital, 5 were discharged, and none died, leaving the number under treatment the same as at the end of the previous week.

Three cases of diphtheria were admitted during the week, 3 were discharged, leaving 16 in hospital at the close of the week.

One case of measles was admitted to hospital, 8 were discharged, leaving only 13 cases under treatment at the close of the week.

The number of deaths from diseases of the respiratory system registered was 47, being 6 under the number for the preceding week, but 6 over the average for the 16th week of the last ten years. The 47 deaths consist of 26 from bronchitis and 21 from pneumonia.

Meteorology.

Abstract of Observations made in the City of Dublin, Lat. 53° 20′ N., Long. 6° 15′ W., for the Month of April, 1900.

Mean Height of Barometer,	29·956 inches.
Maximal Height of Barometer (19th, at 9 a.m.),	30·532 „
Minimal Height of Barometer (11th, at 4 p.m.),	29·131 „
Mean Dry-bulb Temperature,	48·8°.
Mean Wet-bulb Temperature,	45·5°.
Mean Dew-point Temperature,	42·0°.
Mean Elastic Force (Tension) of Aqueous Vapour,	·268 inch.
Mean Humidity,	78·2 per cent.
Highest Temperature in Shade (on 21st),	70·7°.
Lowest Temperature in Shade (on 8th),	35·9°.
Lowest Temperature on Grass (Radiation) (on 6th)	30·2°.
Mean Amount of Cloud,	60·7 per cent.
Rainfall (on 16 days),	1·304 inches.
Greatest Daily Rainfall (on 3rd),	·200 inch.
General Directions of Wind,	N.W., W.

Remarks.

A favourable springlike month. At times, indeed, changeable, cloudy, and showery, but, on the whole, warmer than April usually is, and with a moderate rainfall. On the 21st the thermometer rose to 70·7° in the shade in Dublin, while readings as high as 74° were recorded at Aberdeen and Loughborough, and 78° in London. The wind was very strong and squally between the 10th and 16th.

In Dublin the arithmetical mean temperature (50·1°) was 2·4° above the average (47·7°); the mean dry-bulb readings at 9 a.m. and 9 p.m. were 48·8°. In the thirty-five years ending with 1899, April was coldest in 1879 (the cold year) (M. T.=44·5°), and warmest in 1893 (M. T.=51·4°). The month of April, 1893, was the warmest for at least 30 years.

The mean height of the barometer was 29·956 inches, or

0·106 inch above the average value for April—namely, 29·850 inches. The mercury rose to 30·532 inches at 9 a.m. of the 19th, and fell to 29·131 inches at 4 p.m. of the 11th. The observed range of atmospheric pressure was, therefore, 1·401 inches.

The mean temperature deduced from daily readings of the dry-bulb thermometer at 9 a.m. and 9 p.m. was 48·8°, or 9·1° above the value for March, 1900. Using the formula, *Mean Temp.* = *Min.* + (*Max.*—*min.* × ·476), the value is 49·8°, or 2·4° above the average mean temperature for April, calculated in the same way, in the twenty-five years, 1865–89, inclusive (47·4°). The arithmetical mean of the maximal and minimal readings was 50·1°, compared with a twenty-five years' (1865–1889, inclusive) average of 47·7°. On the 21st the thermometer in the screen rose to 70·7°—wind, S.W.; on the 8th the temperature fell to 35·9°—wind, N.W. The minimum on the grass was 30·2° on the 6th.

The rainfall was 1·304 inches, distributed over 16 days. The average rainfall for April in the twenty-five years, 1865–1889, inclusive, was 2·055 inches, and the average number of rainy days was 15·2. The rainfall, therefore, was considerably below, whereas the rainy days were perceptibly above the average. In 1877 the rainfall in April was very large—4·707 inches on 21 days. On the other hand, in 1873, only ·498 inch was measured on 8 days. In 1899, 1·995 inches fell on 20 days.

Fog was observed on the 19th, 26th, and 27th. High winds were noted on 9 days, reaching the force of a gale on the 12th, 13th, 15th, and 16th. Hail fell on the 4th, 5th, and 15th. The temperature rose to or above 60° in the screen on 7 days. It twice failed to reach 50° (on the 6th and 8th). It never fell to 32° in the screen, but on 2 nights it fell to or below 32° on the grass. The mean lowest temperature on the grass was 39·0°, compared with 37·8° in 1899, 40·2° in 1898, 37·7° in 1897, 40·6° in 1896, 37·8° in 1895, 40·0° in 1894, 38·2° in 1893, 32·4° in 1892, 34·1° in 1891 and 1890, 34·4° in 1889, 34·6° in 1888, and 31·6° in 1887. A solar halo was seen on the 1st. Lightning occurred on the 1st.

The rainfall in Dublin during the four months ending April 30th amounted to 8·002 inches on 79 days, compared with 7·557 inches on 71 days in 1899, 7·236 inches on 64 days in 1898, 9·554 inches on 79 days in 1897, 5·781 inches on 63 days in 1896, 10·233 inches on 65 days in 1895, 9·151 inches on 73 days in 1894, 6·242 inches on 56 days in 1893, 5·922 inches on 61 days in 1892, only 3·203 inches on 46 days in 1891, and a twenty-five years' average of 8·466 inches on 66·2 days

At Knockdolian, Greystones, Co. Wicklow, the rainfall amounted

to 1·435 inches on 12 days. The heaviest falls in 24 hours were ·380 inch on the 6th and again on the 11th. The total rainfall in 1900, up to April 30th, was 13·191 inches on 70 days, compared with 12·380 inches on 70 days in 1899, 8·890 inches on 56 days in 1898, 13·080 inches on 80 days in 1897, 5·686 inches on 50 days in 1896, 12·570 inches on 54 days in 1895, 12·456 inches on 70 days in 1894, and 8·530 inches on 54 days in 1893.

At Cloneevin, Killiney, Co. Dublin, 1·06 inches of rain fell on 15 days. The maximal fall in 24 hours was ·20 inch on the 3rd and again on the 11th. The average rainfall in April of the fifteen years, 1885–99, was 1·850 inches on 14·5 days. Since January 1, 1900, 9·23 inches of rain fell at this station on 77 days, compared with 9·02 inches on 65 days in 1899, 7·74 inches on 61 days in 1898, 10·36 inches on 83 days in 1897, 5·27 inches on 55 days in 1896, 11·28 inches on 66 days in 1895, 9·09 inches on 74 days in 1894, and 6·94 inches on 57 days in 1893.

At Recess, Connemara, Co. Galway, the rainfall was as much as 4·629 inches on 20 days, the heaviest daily measurement being ·620 inch on the 10th. The Reporter states that the weather was very wild from the 12th to the 14th, with gales from S.W. A thunderstorm occurred on the evening of the 15th. The most prevalent winds were W. & S.W. Hence the heavy rainfall at this station.

RECTAL DISEASES.

Dr. Monroe (*Cin. Lan. Clin.*), writing of rectal diseases, says:—I have seen one case in my practice of imperforate anus in a child. I operated, and I think the baby died somewhat sooner than it would have done had I not done so. I saw a young lady who had no external anus. The rectum opened into the vagina. She also had three uteri. Dr. Byford operated in her case, removing the womb, and making an external anus. He closed the recto-vaginal fistula. She died the third day. I have seen one case in a lady where the anus became closed from instrumental delivery of child. The operation in her case was successful. When we use an anæsthetic for any purpose, either for diagnosis or treatment, I prefer chloroform. I never use anything else.—*Gaillard's Med. Journal.*

CHILBLAINS.

J. H. Vadakin, M.D. (*Medical Brief*), recommends for chilblains a stupe consisting of one teaspoonful of acetate of zinc to a bowl of hot water. He has tried it, and with success in each case.

PERISCOPE.

ROYAL COLLEGE OF SURGEONS, EDINBURGH.

The following gentlemen, having passed the requisite examinations, were, at a meeting of the College held on May 16th, elected ordinary Fellows:—Alfred Campbell, M.R.C.S. Eng., L.R.C.P. Lond., London; William Harry Hunter, M.B., C.M., Edinburgh; John Boyd Jamieson, M.B., C.M., Edinburgh; Joseph William Leech, M.B., Ch.B., M.D., Newcastle-on-Tyne; and Charles Arthur Owen, M.R.C.S. Eng., L.R.C.P. Lond., Lahore, Punjaub.

PERSISTENT HEADACHE CURED BY TREPANATION.

M. Marin presented before the Société Médico-Chirurgicale du Brabant (*Presse Méd. Belge*) a patient who had been successfully trepanned for a persistent headache. For two years and a half the patient had suffered so much that more than once suicide was contemplated. Ten days after the operation the pain had completely disappeared. [Percivall Pott successfully trepanned a young woman for a violent headache. On opening the skull he noticed that the superior longitudinal sinus was much distended, so he opened it and let blood, to the immediate relief of the patient.]

CONGENITAL CYSTIC KIDNEY.

Dr. E. E. Graham, at the late meeting of the American Pediatric Society, stated that he saw this baby about twenty minutes after birth. It was well devoloped, but distinctly cyanotic, breathing feebly, and the cyanosis appeared to be more marked than the heart's action and feeble breathing should produce. The body was limp, and the child could not be aroused. Death occurred forty-five minutes after birth. The autopsy made four hours later showed a normal heart, small areas of lung tissue containing air, liver, spleen, and mesenteric glands normal, and both kidneys cystic.—*St. Louis M. & S. Jour.*

PLAGUE VACCINATION.

M. Lehmann (*Bull. de l'Ac. de Méd.*) gives the following statistics of the Haffkine vaccination for the plague for the City of Hulbli:—Of a population of 41,000 persons 38,712 were vaccinated. The plague caused 2,761 deaths; of these 2,482 had not been vaccinated, and 349 were vaccinated. The vaccination of Haffkine, as the vaccination of Jenner, has a double action—it prevents the

attack, and it modifies its severity in those already attacked. Kornabruck found, in the Hospital of Harva, that the mortality of the unvaccinated was 62 per cent., whilst that of the vaccinated was only 27 per cent.

CYST OF THE PANCREAS.

M. KERARD, at a meeting of the Society of Medical Science of Lyons, presented a patient who had been operated on by M. Poucet for a cyst of the pancreas. The patient, a woman of fifty-two years of age, had for three months suffered from vomiting and a feeling of weight in the stomach. She also noticed a lump about the size of an egg, below her umbilicus, which was movable and underwent change of volume. An increase in the size of the tumour and in the intensity of the gastric troubles caused her to enter the hospital. The diagnosis was difficult, and was unsettled until the laparotomy revealed the cyst, which was incised and marsupialised. In two months she left the hospital feeling perfectly well.—*Lyon Médical.*

THE VOMITING OF PREGNANCY.

DR. JOHN P. DOW says that in mild cases of the vomiting of pregnancy, when medication is not desirable or feasible, he is very fond of following an old German custom. He advises the patient to take a small cup of strong coffee upon waking in the morning—best without sugar and cream—then to remain quietly in bed for an hour before getting up.—*New York Med. Jour.*

NEW PREPARATIONS AND SCIENTIFIC INVENTIONS.

"Soloid" Protargol.

PROTARGOL is an unirritating proteid compound of silver, which is present to the amount of 8 per cent., readily soluble in water, and possessed of astringent, antiseptic, and bactericide properties. Up to the present its chief therapeutic uses are in the treatment of gonorrhœa (in a solution of the strength of one-half to one per cent.) and of tonsillitis (as a gargle or spray of 5 per cent. in strength). It is also used as an astringent and antiseptic in eye cases. Messrs. Burroughs, Wellcome & Co., of Snow Hill Buildings, London, E.C., have prepared "soloids" of protargol which enable suitable quantities of solution of any desired strength to be quickly prepared the moment they are required. The "soloids" are of two strengths—namely, one grain and four grains. They cannot fail to be of great use in practice.

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